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THE RAILWAY GAZETTE

33, TOTHILL STREET, WESTMINSTER, S.W.1.

Labour Policy and State Control

THE resignation of Sir Charles Reid from the National Coal Board, because of his avowed belief in the wisdom of nationalising the mines, attains greater importance than it might otherwise have done. In his resignation statement he made it clear that in his view the "functional duties" of members of the Board do not make for efficient working. His view is that because of the over-centralisation which springs from this, and from an undue reliance on Civil Service, rather than business, methods and conditions of organisation, coal output is not rising as it should and costs and prices are too high. Sir Charles Reid's criticisms on the organisation of the Coal Board may have wider repercussions than were at first thought likely. Mr. Herbert Morrison, at the Labour Party Conference at Scarborough last week-end, hinted that if his party was successful at the next election, it might have to do an enormous amount of work in debating, consolidating and, if need be, reforming and changing the organisation of socialised industries. Ministers would have to have adequate time to consolidate, develop, and make efficient, or more efficient, the industries that had been socialised in the present Parliament. It is not an unfair deduction from this that the Government is beginning to appreciate that there may be serious weaknesses in the organisations which have been set up.

* * * *

The Hotels Executive

On May 13 the Minister of Transport announced the names of the members of the Hotels Executive which has been established under the British Transport Commission. This is the last of the Executives which were specifically mentioned in the Transport Act, 1947, and its function presumably will be to take over and run the hotel services which formerly were part of the British railways. Whether all the other railway catering services eventually will pass to the new Executive is not yet known for certain, but presumably most of them will. The Chairman of the Executive is Lord Inman, whose appointment had been known for some time. There is only one other full-time member, Mr. Francis George Hole, who has been Chief Hotels Superintendent of the London Midland Region. The remaining three members, Mrs. Ella Gasking, Sir Harry Methven and Mr. Ernest W. Wimble, all are associated with the catering industry in one or more of its branches and will serve in a part-time capacity.

* * * *

The Growth of "C" Licences

When the Minister of Transport spoke to the Mansion House Association on Transport in March last on the growth in "C" licences for road vehicles we drew attention to his statement in our March 19 issue. Since then there has been an increasing apprehension in both railway and road transport circles as to the continued rise in the numbers of applicants for "C" licences as compared with "A" and "B" licences. The following table shows the numbers of "A," "B," and "C" licensed road vehicles as at December 26, 1947, compared with December 27, 1946.

	Dec. 26, 1947	Dec. 27, 1946	Increase
"A" licensed vehicles	83,933	81,056	2,877
"A" contract licensed vehicles	13,944	9,627	4,317
"B" licensed vehicles	64,418	58,386	6,032
"C" licensed vehicles	487,151	383,738	103,413

From the above it will be seen that the increase in the "C" licence holders is so large as to justify the view that in many cases at least the applicants for "C" licences are actuated by desire to assure themselves against dependence on a public transport monopoly.

* * * *

Jewish State Proclaimed in Palestine

At midnight on May 15 the British mandate in Palestine ended after nearly 25 years, having begun officially on September 29, 1923. Simultaneously it was announced in a broadcast by the Egyptian Prime Minister that Egyptian forces had been ordered to enter Palestine, while other reports showed that the Arab Legion units still in Transjordan had crossed the border. These events were followed at 4 p.m. on May 16 by the proclamation of a Jewish State of Israel by Mr. David Ben-Gurion, the Jewish Agency leader, but no indication was given of the

boundaries of the new State. Mr. Ben-Gurion is Premier of the provisional Government, which was recognised forthwith by the United States. The Minister of Communications is Mr. David Remez. According to the scheme of partition which had been drawn up by the United Nations, the main line of the Palestine Railways from Rafa to a point north of Migdal would be in the proposed Arab State, the continuation to Jaffa, Tel Aviv, and Haifa being in the Jewish State. The branch from Jaffa to Jerusalem would enter the eastern portion of the Arab State at Lydda, Jerusalem itself forming a proposed trusteeship partitioned roughly according to the Arab and Jewish areas of the city. The Arab State would reach the coast again at Acre and extend to the Lebanon frontier. In present circumstances, these proposals remain speculative.

* * * *

Workers' Share of Earnings

The practice of explaining how the gross income of companies is expended is steadily growing. One result is to show how the dividend, although at times the rate seems substantial, usually absorbs only a small proportion of the total receipts. Of total earnings of £2,138,000 of the General Steam Navigation Company last year, 38·01 per cent. was required for labour, salaries, and pensions. Ships' operating costs took 24·18 per cent. Administration expenses accounted for 3·25 per cent., taxation for 15·44 per cent., and there was retained for depreciation of plant and machinery and for other purposes 18·03 per cent. This left only 1·09 per cent. for the dividend. The rate on the issued capital is 7½ per cent., but if to the issued capital are added the reserves not specifically earmarked for some outstanding debt, the rate is approximately one and one-tenth per cent. The workers with brain and hand, the Chairman points out, receive about 35 times the amount paid to the proprietors. It is calculated that if the whole of the dividend were handed over to the workers it would increase their wage by only 3s. a week.

* * * *

Future of Railways in Canada

Addressing the annual meeting of the Canadian Pacific Railway Company in Montreal recently, the President, Mr. W. A. Mather, said that there was still need for improvement and expansion in the railways of the Dominion. Density of traffic was increasing, calling for enlarged and modern terminal facilities, heavier trains, new signalling, and more rolling stock. All this would require adequate railway earnings, and Mr. Mather feared a situation in which the railways would be impoverished by an unremunerative rate level and would have neither surplus funds of their own nor the ability to borrow the capital required. Even with the 21 per cent. increase in rates granted recently, the level of freight charges in Canada remained lower than in any other country in the world, and even had they been in force in 1947, the average revenue per ton-mile of goods traffic would have been about 1·12 cents, compared with 1·19 cents in 1921, the corresponding post-war year after the first world war. Considering that the new rates were not applicable to grain and grain products within Western Canada, the overall increase was only 16 per cent., and Mr. Mather contrasted this with advances aggregating 43 per cent. granted to United States carriers since the end of the war, and with increases aggregating 55 per cent. allowed to railways in the United Kingdom. Mr. Mather concluded by observing that probably no country in the world was more dependent on rail transport in the development of its economic life than Canada. A report of the meeting appears on another page this week.

* * * *

Combined Bus and Railway Stations

A practical example of road and rail co-ordination working to the benefit of travellers is afforded by Danish combined bus and railway stations, described and illustrated on another page. The development of the programme for their construction is of particular interest at this juncture because it was made possible partly by the growing control of the Danish State Railways over road passenger transport. The example illustrated, that of the combined station at Vejle, is for a town of only 30,000 inhabitants, but the principle is applicable to larger cities. Co-ordination has not meant centralisation, and although the bus and railway stations are separated only by a flight of steps, each is controlled from a separate building. This is the more necessary because a number of independent bus companies has co-operated in the project; in fact, the whole conception is a remarkable illustration of amicable co-operation between the railways and the town council, which jointly built the bus station, and an association of the bus companies and the railways which rents the building from them. The measure of co-ordination achieved by the programme for the building of combined stations is not dependent on large-scale building operations, however, as is shown by the smaller examples described, where only a bus parking space has been constructed and, pending erection of a bus station, passengers by road and road transport staff have the use of the railway station facilities.

* * * *

Refreshment Facilities at Newhaven

At a time when there has been some criticism in the Press of refreshment services provided by one of the nationalised air transport undertakings for travellers arriving in this country, the Southern Region has given a lead in the right direction by opening a much improved buffet for Continental passengers at Newhaven. The earlier refreshment room on the boat train platform, which had a varied career in the war, has been reconditioned on the modern lines now being followed by the Railway Executive. Immediate impressions are of the pleasing colour scheme and atmosphere of spaciousness, without that tendency towards a gaunt and barn-like aspect for which the pre-war room had been criticised. The service matches the new surroundings, for the traveller is now provided either with refreshments at the counter or a full meal at the tables. Breakfast can be taken from 4 a.m., and it was remarked at the opening ceremony last Wednesday, reported elsewhere, that the principal obstacles to providing the full round-the-clock amenities which the management desires are the British licensing laws. In spite of this, the room will give a favourable impression of Newhaven to all, particularly those who have to spend some time there, such as travellers with cars, and those not using the boat trains but making cross-country journeys.

* * * *

A Fogman's Mistake

The report, summarised in this issue, by Lt.-Colonel G. R. S. Wilson on the collision at Motspur Park, on November 6, 1947, shows that the motorman of the up train, after observing outer and inner distants to be against him, was misled at the outer home, obscured by exceptionally dense fog and darkness, by a false green hand signal, which the fogman was showing under the impression that he had heard the signal come off. He admitted his responsibility for the accident, but his evidence in some details was not borne out by others. The rules expressly prohibit any reliance on sound and insist on a fogman making absolutely certain, by such means as he can, that the signal arm really is in the clear position before giving the corresponding hand signal. Many signals are provided with fogmen's repeaters, but this one did not come in the classes considered by the Southern Railway's rules to call for one. Colonel Wilson thinks, however, that it would be well to fit a repeater and review the question of minimum height of arm under which one is fitted. In the old days on the G.E.R. in the London district every signal had a very small arm near the bottom of the post for consultation when fog was very bad. This was, of course, the more necessary with the much higher signals then customary.

* * * *

British-Built Locomotives for Turkey

Since the first steam locomotive was built in Britain, there has been continuous development of steam motive-power throughout the world, and, as would be expected, it has followed the general requirements and outlook of the countries concerned. On the European Continent a distinctive style has been evolved, and it is a significant illustration of the British locomotive-builders' versatility that an order for "1E" class 2-10-0 locomotives, to a pre-war German design, has been completed for Turkey by Beyer, Peacock & Co. Ltd. and the Vulcan Foundry Limited. The present contract, which was placed in 1939 and unavoidably interrupted by the war, necessitated manufacture to metric dimensions. Many

of the German accessories were unobtainable, and fittings of British manufacture have been substituted; also, the frame staying has been strengthened by the introduction of cast-steel frame stays, and the method of cylinder fastening has been improved. Construction was in accordance with British standard specifications and to the inspection of Robert W. Hunt Company, London, which represented the Turkish State Railways. An illustrated article giving full details of these impressive locomotives appears elsewhere in this issue.

* * * *

Railway Pool Losses

THE Government White Paper* dealing with the financial results of the operation of the controlled railway companies, joint lines, and the London Passenger Transport Board during 1947, the first year of control, shows that the total loss to the Exchequer was £59,708,000. This is approximately the same as the estimate given by the Comptroller & Auditor General's Report on the Civil Appropriation Accounts—£55,800,000—and recorded in our May 7 issue. The expenditure of the pool exceeded revenue by £16,239,000, compared with surpluses of £32,182,000 for the previous year, and of £62,547,000 for 1945. The net revenue of the pool fell short of the agreed rental of £43,469,000 by £27,230,000.

The falling off in net revenue was accounted for to the extent of only £5,000,000 by the decline in traffic receipts. On the other hand, expenses rose by £42,000,000 or over 12½ per cent. In the details in the next column the estimated pooled receipts and expenses including standardised maintenance charges are given. The standardised maintenance charges have been divided statistically between the working of all railways and road services of the London Passenger Transport Board on the one hand and the various other items of pooled net receipts, for example, road transport and steam boats, on the other.

Comparison of the figures with those for previous years is affected by the increases in rates, fares, and charges which took effect during 1947. It is estimated that the increases applicable to the services of the London Passenger Transport Board from February 9, and in a minor degree from October 1, yielded approximately £6,000,000 during the year; the increases applicable to the controlled railways from October 1 yielded approximately £15,000,000 during the last three months of the year. The figures take no account of any loss of traffic which may have resulted from the increased charges.

Under the provisions of the control agreement, charges for maintenance (including renewals) were standardised on the basis of an average pre-war charge adjusted for variations in assets in service and in price levels and were borne as pooled expenses. If the actual maintenance expenditure of any of the controlled undertakings in any year of control was less than the standardised charge, the difference, representing arrears of maintenance, was paid into a trust fund set up under Article 19 of the agreement. If, on the other hand, the actual expenditure on maintenance was greater than the standardised charge, the difference, representing excess maintenance, was borne by the trust fund.

* "Government Control of Railways." Cmd. 7399. H.M. Stationery Office. Price 1d.

	1947 £	1946 £
Receipts		
Passenger :—		
Ordinary passengers	147,462,000	158,581,000
Season tickets	13,516,000	12,149,000
Workmen's tickets	8,097,000	7,593,000
Total	169,075,000	178,323,000
Parcels and other merchandise, including mails	26,666,000	23,884,000
Total passenger receipts	195,741,000	202,207,000
Freight :—		
Merchandise (excluding Classes 1-6)	75,883,000	82,530,000
Minerals & Merchandise (Classes 1-6)	22,403,000	20,702,000
Coal, coke & patent fuel	57,216,000	50,479,000
Livestock	1,131,000	1,345,000
Total freight receipts	£156,633,000	£155,056,000
Miscellaneous	3,214,000	3,401,000
Total gross receipts	£355,588,000	£360,664,000
Expenditure		
Running and traffic expenses	194,689,000	183,614,000
General charges	10,109,000	8,493,000
Compensation (accidents and losses)	6,040,000	4,710,000
Rates, taxes, and rate relief	6,102,000	5,262,000
National insurance	4,957,000	2,317,000
Requisitioned privately-owned wagons :—		
Compensation, repairs, etc.	15,343,000	13,830,000
Allowances to staff in H.M. Forces, etc.	31,000	1,038,000
Other special items, including hire and repair charges on works financed by Ministry of Transport	19,994,000	2,665,000
Charge for maintenance	110,367,000	103,825,000
Miscellaneous	Cr. 467,000	Cr. 540,000
Total expenditure	£367,165,000	£325,214,000
Net receipts	Dr. 11,577,000	35,450,000
Other receipts and expenditure included in the pool (net)		
Road transport (excluding L.P.T.B.)	Dr. 92,000	Dr. 19,000
Steamboats	2,895,000	2,360,000
Canals	Dr. 307,000	Dr. 224,000
Docks, harbours & wharves	Dr. 3,193,000	Dr. 3,289,000
Hotels	579,000	1,253,000
Collection and delivery	Dr. 5,116,000	Dr. 3,708,000
Total net receipts	16,811,000	31,823,000
Add :—Miscellaneous receipts (net)	5,769,000	5,334,000
	Dr. 11,042,000	37,157,000
Deduct :—Miscellaneous charges	5,197,000	4,975,000
Net revenue of the pool	Dr. 16,239,000	£32,182,000

Section 27 (3) of the Transport Act provided for the winding up of the trust funds as soon as may be after January 1, 1948, and for the moneys in the funds, instead of being disposed of as provided in the control agreement, to be paid to the British Transport Commission. The amounts which have been so paid to the Commission are:—

Trust fund	£
Southern Railway	23,084,975
Great Western Railway	18,399,534
London Midland & Scottish Railway	38,714,871
London & North Eastern Railway	26,797,452
London Passenger Transport Board	44,358,892
	£151,355,724

In accordance with the provisions of Section 27 (1) of the Transport Act, none of the pool accounts provided for in the Railway Control Agreement will be made up, and the provisional settlements and payments are final.

ESTIMATE OF POOLED REVENUE RECEIPTS AND EXPENSES AND NET REVENUE OF THE CONTROLLED UNDERTAKINGS

	Year ended December 31						
	1941 £	1942 £	1943 £	1944 £	1945 £	1946 £	1947 £
Receipts and expenditure of the controlled railway companies and joint lines in respect of railway working and of the L.P.T.B. in respect of railway working and road services :							
Receipts : Passenger	132,106,000	163,544,000	186,281,000	194,638,000	210,556,000	202,207,000	195,741,000
Freight	158,826,000	176,658,000	190,908,000	196,066,000	169,663,000	155,056,000	156,633,000
Miscellaneous	2,903,000	3,285,000	4,490,000	3,656,000	3,662,000	3,401,000	3,214,000
Total	293,835,000	343,487,000	381,679,000	394,360,000	383,881,000	360,664,000	355,588,000
Expenditure	226,636,000	251,715,000	272,247,000	301,167,000	316,982,000	325,214,000	367,165,000
Net receipts	67,199,000	91,772,000	109,432,000	93,193,000	66,899,000	35,450,000	Dr. 11,577,000
*Other receipts and expenditure included in the pool (net)	Dr. 2,074,000	Dr. 2,646,000	Dr. 3,864,000	Dr. 2,937,000	Dr. 4,352,000	Dr. 3,268,000	Dr. 4,662,000
Net revenue of the pool	£65,125,000	£89,126,000	£105,568,000	£90,256,000	£62,547,000	£32,182,000	Dr. 16,239,000

London Outer Area Train Services

AN article on "The London Traffic Problem," which appeared in the issue dated April 2, suggests that some particulars of the services provided on the various regions of British Railways for their outer suburban areas may be of interest today. The number of trains now running into London from selected areas has been compared with the service given in May, 1939, and figures for Sundays are included—Sunday trains being almost as important as a reasonably good weekday service, outside the peak hours, for the development of a district; and perhaps even more necessary today than in 1939, as the numerous pre-war Sunday half-day excursions, which took Londoners at very low fares far afield to visit relatives in the provinces, have not been restored.

The figures on the different sections of the map indicate the present total of weekday services from each district into London, and the number of Sunday trains; but, as a guide to

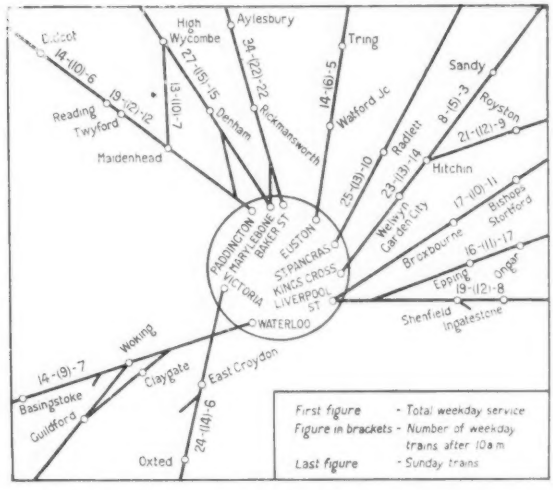


Diagram showing frequency of outer London services

the frequency of the weekday service outside "business" hours, the number of departures from each area into London after 10 a.m. is shown in brackets immediately after the weekday total. Thus 16-(11)-17 indicates a total of 16 services on weekdays, of which 5 leave before and 11 after 10 a.m., and 17 on Sundays.

Taking the London termini, north of the Thames, from east to west, the outer suburban areas served by the old Great Eastern Railway from Liverpool Street—still remarkably rural in spite of their nearness to London—have, on the whole, a sparse train service, for which no doubt some of the older residents are thankful. From the Ongar-Epping section, today's total of 16 trains on weekdays is spread over 18 hr., with varying departure times and a gap of 2 hr. between trains at midday, though there is an hourly fixed-interval service on Sundays from 7.35 a.m. to 10.35 p.m. The figures for 1939 were 15-(11)-9, so that there has been material improvement on Sundays. Main-line stations do not show up well, though it must be remembered that where the main line passes through an outer suburban area, long-distance passenger trains and freight have to be considered, as well as possible connections between local and fast trains at junctions further out, and a regular-interval service—of great value in suburban districts—may be impossible.

The total of 17 weekday trains running up from the Bishop's Stortford-Broxbourne area, 7 before and 10 after 10 a.m., has some 2-hr. gaps, though the Sunday service comes up to the 1939 figure of 16-(9)-11. This, however, seems to be an area where it might be practicable to give a regular-interval service of short trains outside peak hours on weekdays, and all day on Sundays, connecting with fast main-line trains at each end. On the Colchester main line, Ingatestone, the first station to lose the benefit of the Southend services, with 7 up trains in business hours and 12 spread over the rest of the day, has a noon gap of 2½ hr. with no train, though there is some attempt at standardisation of Sunday times. The 1939 figure for Ingatestone was 19-(12)-10.

In the outer areas served from Kings Cross, the Welwyn Garden City to Hitchin area, but not the Hitchin-Royston length on the Cambridge line, shows improvement over 1939, when the figures were 18-(10)-11 and 23-(14)-8. Intervals between trains are very irregular, for which the old Great Northern's bottle-neck within 12 miles of London is largely to blame, and main-line stations from Hitchin to Sandy are very poorly served, though the 1939 total of 10-(7)-3 was little better than today's.

On the old "Midland" main line from St. Pancras loss of inner area traffic to road and tube was almost complete in the 1920s, and most of the suburban mileage has since been devoted to improving services from Elstree and beyond, which accounts for the fact that the 12 trains running in from Radlett before 10 a.m. include three non-stops, which make the 15¼-mile journey in 19 or 20 min. Some effort was made to provide a regular-interval main-line Sunday service in 1932, with local departures from St. Pancras at 5 and 35 min. past the hour, but the total number of Sunday services was only 17; and on the Tottenham and Forest Gate line, where local traffic was heavy on Sunday afternoons, regular-interval departures from Kentish Town, and from East Ham or Barking, began at the end of the 1914 war. But no regular-interval weekday service has been tried on the main line, and the present figure for Radlett—25-(13)-10 compared with 32-(19)-18 in 1939—has a gap from 9.38 to 11.50 a.m., with a similar interval from 9.45 to 11.35 a.m. with no down train from St. Pancras, and few traces of the regular-interval service now remain in the Sunday trains.

Into Euston, from stations beyond Watford Junction on what was the Western Division of the L.M.S.R., there are some very long intervals in the present weekday services—nothing from Tring to Euston between 8.44 and 11.4 a.m. and 1.4 and 4.50 p.m.—and there is, of course, no attempt at regular-interval services, such as ran long ago at 15 min. past the hour from Euston to stations beyond Watford. The present figure compares very badly with the 1939 total of 26-(14)-16, but the Sunday worsening is mainly due to the loss of 9 double-trips between Watford Junction (connecting with electrics) and Tring, which are badly needed today both on weekdays (if the line would accommodate them) and Sundays. Stations north of Watford are widely spaced, and road services supplement the rail facilities, but Herts. is a very attractive district, and the total of 14 up trains from Berkhamsted in the 24 hr. compares poorly with 30 from Chesham. A curious point about the service today is that the down trains from Euston outnumber the up—20 compared with 14 on weekdays, and 7 with 5 on Sundays.

On the Aylesbury line—the old Great Central & Metropolitan Joint—services to Baker Street or the City, and to Marylebone, are grouped together, and from stations beyond Rickmansworth (Chorleywood to Stoke Mandeville inclusive) there is an improvement over the 1939 figure of 24-(15)-18. Intervals between trains are irregular, and there are gaps up to 50 min. on weekdays and 45 min. on Sundays, though, with so small a number of main-line expresses to consider, it should be practicable here to arrange a service at fixed intervals. This would be a very valuable improvement, and it is significant that the Baker Street and Watford trains, which ease the Aylesbury services of local work south of Moor Park, already run at fixed hours for the greater part of the day.

On what was the Great Western & Great Central Joint line to High Wycombe and beyond, services to Paddington or Marylebone have been grouped together similarly, and the figures from stations beyond Denham are a little below the 1939 total of 28-(19)-18. Here again there is no attempt to run the local trains at regular intervals, and there are gaps, from Beaconsfield for example, of over an hour. With the expresses from Paddington to the North already standardised, a more regular local service might be practicable here.

Suburban services on the Western Region—a four-track road with no especial difficulties in the London area—are straightforward, and consist mainly of slow and semi-fast trains in clearly-defined zones, Slough being the limit of the inner area and usually the first stop of outer-area trains. Twyford, 31 miles out, had in 1939 a total of 23-(16)-9 services to London, slightly better than today's figure, but for the Maidenhead-

Bourne End-High Wycombe branch the 1939 total of 13-(10)-8 is almost identical with today's. From the Didcot-Reading area, which benefits so greatly by the express service afforded to Reading that the Pangbourne-Paddington 41½-mile journey only takes from 63 to 65 min. in business hours, the 1939 figure was 15-(10)-8; but the service is sparse on weekdays, with intervals of over 1½ hr. between trains, and poor facilities on Sundays for so attractive a district. There is, for example, no Sunday service from London between 12.30 and 4 p.m., and the Sunday afternoon up services from Pangbourne are at 2.24, 4.42, 5.54, and 8.14 p.m.

South of London, the outer suburban areas of Kent, Surrey, and Sussex are so lavishly served by the regular-interval electric services of the Southern Region that any comparison with the Northern lines would be unfair. The half-hourly locals to Guildford and Portsmouth, on weekdays and Sundays alike; the half-hourly stopping trains between East Croydon and Brighton; and the half-hourly locals from Horsham to Littlehampton or Bognor—to take three examples only—and the very liberal services to Dorking, Horsham, Maidstone, etc., are all quite above criticism.

In many cases, indeed, the inner suburban area has no better a service than the outer save during "peak" hours—there is, for instance, only a half-hourly service from Charing Cross to Orpington and Sevenoaks, with considerable overcrowding even in the "slack" period—and the Esher-Byfleet area of the old Western Division has to depend entirely on the half-hourly service which runs to Woking and beyond. But as these trains nearly all run fast to Surbiton, they give a quick as well as a regular service—only 30 min. for the 19¼ miles from Waterloo to Weybridge—and it is worth noting that they reach Woking in 41 min. with 7 stops, against a non-stop electric schedule of 29 min.; and make the Guildford-Portsmouth Town journey in 73 min. with 13 stops, against the express electric allowance of 54 min. with only one stop. It may even be urged that the frequency of the outer area electric local services has rendered acceleration of the express electrics a very difficult matter, and deprived the public of any speeding-up of the long-distance trains, though, as a recent article on the Brighton express electrics pointed out, the amount of recovery time in the express schedules has resulted in almost exemplary punctuality.

Almost the only outer areas of the Southern Region now depending on steam trains are the Oxted line, and the Brookwood-Basingstoke section on the old Western area. The former, below Sanderstead, is not well served by today's standard, as although the 1939 figure—for the area from Oxted to Sanderstead—was 30-(17)-15, today's total is 24-(14)-6, and the service runs at very irregular intervals with some 1½- to 2-hr. gaps. This is obviously a case where some standardisation of times is called for, and, perhaps, the running of a short train or a "push-and-pull" between East Croydon and Oxted outside peak hours, with acceleration, to Oxted, of trains which run beyond that point. From the Basingstoke-Brookwood area, the 1939 figures were 18-(12)-10, rather better than today. But most of the 1939 trains, and the present service, are at regular intervals, and there is a tremendous improvement over the service prior to electrification.

In the old steam days of the London & South Western, local stations to Guildford on the Claygate line, now blessed with a regular electric service at 20- or 30-min. intervals on weekdays and half-hourly on Sundays, used to have only 15 weekday services and 5 on Sundays; and to Hampton Court 29 steam trains ran on weekdays—including one down 30-min. "express." Today the electric schedule is 33 to 35 min. The Hampton Court steam trains were not at regular intervals, though on Sundays there was a regular hourly service till 4 p.m., after which came a 4-hr. gap. Reading had 14 weekday trains and 7 on Sundays, all at irregular intervals, and to Windsor there were 24 weekday and 13 Sunday services, the latter running at standardised times—5 min. past the hour from Waterloo and 45 min. past the hour from Windsor. This was of course competitive with the Great Western, and the London & South Western provided one down "fast" in 50 min. and one up in 45 min. (todays electric timings are from 52 to 56 min.). Paddington gave several down trains in 32 to 35 min. (most of them by slips off main-line trains at Slough) with up "fasts" at similar timings. Today there are two down trains to Windsor in 34 min., with one up in 34 min. and two in 35 min.

Transport Statistics

WE welcome the publication by the British Transport Commission of a new series of four-weekly transport statistics,* of which we gave brief details in our last week's issue. The first number is a clearly printed brochure of 31 pages giving pretty full information about British Railways and London Transport for the four weeks to January 25, together with some incomplete traffic figures for inland waterways. The Commission forestalls any criticism that May 10 is a late date for the issue of January statistics by explaining that figures for subsequent 4-weekly periods will be issued as rapidly as possible, so that soon they may be available within the month after the period concerned.

We are gratified also to learn from Sir Cyril Hurcomb's foreword that the Commission intends to provide ample material for watching the progress of its activities. It proposes to include later much new information about road transport. On the other hand, we are disappointed that the Chairman of the Commission does not supplement the table of receipts from railway working, which has been circulated already for the four periods to April 18, by giving an estimate of expenditure. He says that it would not be practicable to give currently at monthly intervals an analysis of financial results, and that these are proper to the annual report, which will be published in due course.

The obvious reply is that every business undertaking must know approximately how its net revenue is varying from month to month. A recent article in *The Railway Gazette* pointed out that a statement of receipts, pure and simple, may convey a wrong impression of British Railways' financial standing. Sir Cyril Hurcomb suggests that the new series of returns will enable those interested, including staff of all grades, to judge the scope and nature of the work performed and the efficiency with which it is being done, but is it possible to judge whether the various Executives are competent without knowing the trend of their working costs?

As the returns stand, the staff tables give a disquieting hint that expenditure is increasing. On January 25 the total staff employed, including the Commission's head office staff, was 782,295. Of that number, British Railways employed 681,118—an increase of 2,163 on the strength of the staff at the beginning of the period. All the large departments added to their establishment, and undoubtedly more manpower was required for locomotive running and shed work. It is, however, difficult to understand why 350 additional appointments were made to the salaried staff in the first four weeks of nationalisation, bringing their numbers up to 106,994. The 1923 amalgamations cut out a considerable number of managing and clerical posts; there is no apparent reason why the 1948 unification should have the contrary effect, and we shall expect later returns to show a sharp decrease.

Compared with 1947, the traffic returns of British Railways reveal a decrease of 9·53 per cent. in the number of passenger journeys originating, the bulk of the loss being in season ticket travel. Freight tonnage was up by 1·97 per cent., but the whole improvement was in heavy traffics. The tonnage of high-class merchandise and livestock declined by 1·73 per cent., part of the loss being no doubt due to the larger number of road vehicles operating under "C" licences. Net ton-miles are estimated to have been over 5 per cent. higher because the average length of haul of all classes of traffic increased substantially; for high-class merchandise the haul was 120½ miles, compared with 114 in 1947. It is a pity that a table of wagon loadings is not included—a useful figure for many purposes besides calculating the average wagon load at starting point.

A table with the curious heading "British Railways Vehicles" gives the operating stocks of locomotives, coaching vehicles, and freight wagons. "Rolling Stock" is the proper term, and appears in the heading of a second table dealing with the repair position and the "effective operating stock," which might be better described as "serviceable." Taken together, these tables prove that the locomotive situation was easier in January than it was twelve months before. About 150 more coaching vehicles were in service, but 34,000 fewer wagons were available, with 12 per cent. of the operating stock laid

* "British Transport Commission: Transport Statistics, No. 1." Published by the British Transport Commission, 55, Broadway, Westminster, S.W.1. Price 1s. See also page 570 last week

aside for repairs. When later returns give the number of new wagons installed and of old wagons withdrawn, it will be possible to judge whether the supply of wagons is likely to be adequate to meet the demand next autumn and winter.

London Transport had a busy period in January. Passenger carryings by rail were up 5·21 per cent. on 1947, and involved the running of 1,323,000 more railway car-miles, an increase of 8·46 per cent. Nearly 6 times as many people were carried by road; bus and coach journeys increased by 8·22 per cent., while tram and trolleybus carryings were greater by 5·81 per cent. The number of London Transport staff was 97,044, or 89 more than the number at the end of 1947. It is somewhat remarkable that 98 appointments were made to the salaried staff in January, bringing the number of employees in the highest grade up to 10,393.

The two tables for inland waterways do not include figures for the canals which are for the time being operated by British Railways, and we therefore reserve any comment on water transport until full particulars are supplied in subsequent bulletins. We may add that the general design of the whole of the statistical tables is excellent, and the explanatory notes appended to the tables are clear and concise. Above all we are gratified to have separate figures for the Regions into which British Railways are divided, as these statistics will in time be a valuable guide to the development of trade and industry throughout Great Britain.

LETTERS TO THE EDITOR

(The Editor is not responsible for the opinions of correspondents)

More Cheap Fare Concessions Needed

13, Outwood Drive,
Heald Green, Cheshire. May 11

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—With reference to the letter from myself published in your May 7 issue, I must apologise for two things: first for my signature, which you were unable to read; and secondly, for a slip in the last paragraph of my letter. This should have read "a considerable number of carriages" and not "a considerably greater number of carriages."

As this matter is of considerable importance to the travelling public, I would like, if I may, to revert to the subject when the proposals of the Railway Executive for June 1 are made known in greater detail.

Yours faithfully,
ERIC B. C. DYCKHOFF

The London Traffic Problem

London. May 9, 1948

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The letters which have been addressed to you on the subject matter of the article under the above title which appeared in your April 2 issue confirm the confusion which has entered into the execution of Professor Abercrombie's Greater London Plan. One must sympathise particularly with the lament of Mr. Henry Brooke, L.C.C., as to changeable Government policy making impossible the joint growth of population and industry in the outer ring. As matters stand in this connection, the L.C.C. has during the past 12 months decanted about 10,000 people from the inner area to Loughton, Hainault, Romford, and Aveley—all rural fastnesses. These people, just to obtain housing accommodation, find themselves perforce out in the blue, with no local industries, which necessitates the working section (about 3,000) of the 10,000 travelling back to London daily on the already distressed transport facilities serving the districts mentioned.

Regarding Mr. Miles' criticisms, that gentleman's conclusion that the Greater London Plan concurs with the point of view taken by your correspondent does not accord with the fact, because the plan is not being executed on the lines laid down, as Mr. Brooke confirms in his letter. Further, the weakness in the plan is that although 1¼ million people were to be moved out from the central area, no control of the infilling again of that area is being exercised; and unless, as pointed out in your editorial comment, such a control is instituted in the near future, an immobile population bloc of unprecedented dimensions will be created. The danger already looms large, for the London Passenger Transport Board reports for 1946 and 1947 state that the population in its area has increased at the rate of 200,000 each year, and the increase continues daily.

The deprecation by Mr. G. Webb, writing from Chalfont St. Giles, of the practicability of any scheme for large-scale movement of Londoners to the Chilterns is readily appreciated. As to the Marylebone route, the existing train service is so sparse that, with signalling and slight terminal improvements, coupled with the lengthening of the present 5-coach trains to 10 coaches, the carrying capacity of this route could be increased tremendously. Only four main line trains leave the terminus between 10 a.m. and 6 p.m. daily, so that is no complication.

Regarding the Kings Cross route, a large proportion of the suburban traffic was surrendered supinely by the L.N.E.R. to London Transport; and despite the bottlenecks at Welwyn and Hitchin it is possible to re-equip this route to carry a greater volume of passenger services. It must be remembered that the Cuffley line is available to accommodate the goods traffic, and also that the Southern has proved it practicable by expert adjustment of the schedules to operate successfully an intensive steam service from the coast and Continent with an electric stopping service over a double track between Orpington and Sevenoaks, which is certainly as bad a bottleneck as Welwyn and Hitchin.

In any scientific investigation of the problem, none of the routes indicated on the map would be found to be incorrectly classified for traffic density both actual and potential.

On the point raised as to the relative seating capacity of tube and steam trains, the following is quoted from your March 19 issue (letter from Mr. Cousins): "The seven L.N.E.R. suburban trains leaving Liverpool Street for Woodford or beyond between 5 and 6 p.m. seated over 6,000 people, whereas 15 seven-coach L.P.T.B. trains (4-min. service over the same period) can seat only 4,230.

YOUR CORRESPONDENT

A Fireman's Views

Perth, May 6

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The article on the behaviour of manganese steel liners for axleboxes, in your issue dated April 30, is very worthy of note, but I must point out some rather misleading points in the said article. As far as I can ascertain the manganese steel liners were introduced on the Stanier Class "5" mixed traffic engines of the then L.M.S.R. as another attempt to stop the peculiar and devastating knock which develops on the left side of this class of engine. From the article it would appear that the knock was caused by the wear on the axlebox, whereas in reality it is the knock that causes the wear.

We have had engines delivered new from the erecting shops which require to be travelled upon to be believed, and contrary to your article there has been little improvement in the riding of these engines. There is at this depot a Class "5" mixed traffic engine which is very likely for an honourable mention in your journal, but I will not mention the mileage run up to date or the target aimed at. But I will mention that I have never before seen any of her "fellow-workers" get so much attention to certain parts which are deemed unnecessary in others.

In my opinion, the Stanier "Black Five" requires a new system of steam distribution, and I sincerely hope that the changes now being instituted by Mr. Ivatt are a success, so that this very handy unit can do its work without shaking itself to bits before the allotted mileage is reached. I might add that in the opinion of the majority of the enginemen on the Northern Division (ex-L.M.S.R.) this class is venerated, but only because they have a good-sized boiler and require little or no attention on the road.

Yours respectfully,
DRUIMUACHDAIR

Locomotive Details

Uvongo Beach, Natal South Coast,
South Africa. April 19

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—Recent locomotive designs are turning our minds back to sound features of design to augment cylinder power introduced by earlier locomotive engineers, but allowed to fall into abeyance.

The most interesting is the revival of attention to the Stephenson valve gear, with its valuable feature of increasing lead at short cut-offs. This calls for consideration in the design of new engines for Colonial railways, where the small driving wheels cause high valve speed.

It is notable that the G.W.R. retained the Stephenson gear

for all its two-cylinder engines right up to Mr. Hawksworth's recent design. With the L.M.S.R. revival of 1880 French practice of putting the gear outside, objections to inaccessibility fall away. Double fly-cranks avoid large eccentrics to give the necessary long valve travel.

Another revival of interest is the double-admission valve. The comparative indicator cards shown by Mr. C. A. Cardew, of New South Wales, at the recent discussion of Mr. E. L. Diamond's paper at the Institution of Mechanical Engineers, showed a substantial gain in cylinder power with this type of valve.

A further revival is that of independent blastpipes with a double, or elliptical, chimney. This feature was introduced by the late Mr. F. W. Webb on the L.N.W.R. locomotive, *Black Prince*, in the nineties. By eliminating exhaust interference, cylinder power is improved.

A detail in the design of Walschaerts valve gear sometimes neglected is the length of the union link operating the combining lever. This often is made to suit the relative positions of combining lever and crosshead. It should, however, be made as long as possible to reduce angularity, and should not be less than three-quarters of the cylinder stroke. This can be effected by setting forward the crosshead bracket. The new express engines of the Belgian National Railways show attention to this detail.

Yours faithfully,

G. V. O. BULKELEY

British Railways Locomotive Exchanges

36, Hartburn Lane,
Stockton-on-Tees. April 26

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—A lot has been written and much discussion has taken place regarding the interchange of locomotives between the various regions.

It seems to me, however, strange, to say the least, that the finest mixed-traffic engine ever produced, namely, the "Green Arrow" Class "U2" (late L.N.E.R.) should not have been included. This engine has been referred to often as the engine which "won the war."

While there is no doubt a very good reason for this, it is certainly not obvious, and I am wondering if any of your readers can supply the explanation.

Yours faithfully,

J. S. P. PHILLIPS, D.F.C.

Railway Officers' Salaries

Edinburgh. May 14

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—The strictures implicit in the letters in recent issues regarding salaries of officers or near officers of the ex-L.N.E.R., while very naturally confined to their own grade by the writers concerned, might well be extended, not only beyond the borders of the Eastern Region, but enlarged to include that long-suffering and hitherto inarticulate group—the professional engineers and other technical staff of similar status in the service of the now defunct L.N.E.R. For years before nationalisation the technical staff of that company was underpaid, judged by any standard. Today the position is much worse.

At the moment we have the absurd situation that a civil engineer, with the qualifications recognised by his professional body and with years of experience behind him in the railway service, is subject to a maximum salary actually lower than can be attained by a clerk in the same department. This is possibly a transitory condition; on the other hand, if past experience is any guide, it may become a permanent feature since the technical staff has not the power of the clerical staff where grievances are concerned. We also have good reason to be aware of the annoyance of our departmental officers on the question of our acceptance of the principle of collective bargaining when all other reasonable methods had failed to produce any betterment in our conditions.

To the senior members of the engineering staff the award of the Railway Staff National Tribunal of April, 1947, meant little more than nothing, and they were left more or less where they were before the award was put into force. It will be regrettable indeed if the Railway Executive continues to regard as maximum salaries, for almost all technical staff below the officer grade, what the former management of the L.N.E.R., in common with the other companies then existing, were pledged to regard as minima for the middle grades of the technical staff.

To follow this course can mean only one thing, the reduction, in time, in the number of qualified engineers on their staff with a consequent lowering of professional quality and usefulness. This process has begun already, as can be seen in the fact that in all Regions at present, vacancies cannot be filled from sources outside railway service with candidates who are qualified, or indeed by engineers at all, so low are the salaries offered and so dim the prospects held out.

There are other matters, particularly in the Scottish Region, which are worthy of investigation, *e.g.*, the system, or lack of it, of promotion to senior appointments and the disparity between the number of engineers with salaries above the grading scheme in the ex-L.N.E.R. compared with the ex-L.M.S.R. portion of the Region. If it is Mr. Allen's wish to have the staff contented, then it is clear that the petty meannesses of the past régime will have to be rejected and existing anomalies rectified as between one Region and another, or between two sections of the same Region. If matters are allowed to drift, as was customary under the old company, then the prospects of attaining contentment in the case of the civil engineering staff will be absolutely nil.

STILL HOPING

British Railways Timetables

6, Woodbines Avenue,
Kingston-on-Thames. May 5

TO THE EDITOR OF THE RAILWAY GAZETTE

SIR,—I have pleasure in enclosing herewith a copy of a letter received by me from the Public Relations Officer of the Railway Executive in reply to a request as to whether it was possible to obtain through him a complete set of the regional timetables for the services commencing on May 31.

I feel that this does not reflect the co-operative spirit one would wish for from the railways now they are nationalised and does not in any way compare with that received from the late railway companies.

Yours faithfully,

G. BEST

Telephone: Paddington 1601, Ext. 46.
General Sir William Slim. G4831/159.

The Railway Executive (British Railways),
222, Marylebone Road.
London, N.W.1. May 4

G. Best, Esq.,
6, Woodbines Avenue,
Kingston-on-Thames.

SIR,—In reply to your letter about timetables, may I suggest that you ask your bookseller to supply you with a copy of *Bradshaw's Guide* (5s.), which gives the train services of the British Railways.

Yours very truly,

FOR W. J. SLIM
J. R. H.

[Since the above our correspondent has received a further letter signed on behalf of General Slim saying that if application was made to the Passenger Agent, 71, Regent Street, W.1, a remittance of 2s. 3d. would cover one copy of each of the Regional timetables, the individual prices being: Eastern, 3d., North Eastern, 3d., Scottish, 3d., Southern, 6d., Western, 6d., and London Midland Region, 6d. We think that whoever dictated the letter that has offended our correspondent was really intending to be helpful in suggesting the purchase of a copy of *Bradshaw* that gives the passenger train services of all the six regions of British Railways. Incidentally, this letter has called our attention to a strange anomaly. The six regional timetable books, which are printed on better quality paper than *Bradshaw*, cost in total 2s. 3d.; whereas the cost of *Bradshaw* is 5s. It would appear that the price of *Bradshaw* should be reduced or that of the regional time books raised.—ED., *R.G.*]

BRITISH RAILWAY INVESTMENTS IN COLOMBIA.—Statistics in the *South American Journal* relating to British capital invested in Colombia, show that in 1947 the total was £5,441,475; interest amounting to £213,606 or 3·7 per cent. was received. The amount on which no interest was forthcoming was £1,024,420. There are only three British-owned railways operating in Colombia. Of these the Barranquilla Railway & Pier Co. Ltd. no longer owns a railway, which it sold to the Government and is now more of a trust company receiving instalments of the purchase price. The Colombia Railways & Navigation has ceased all transport operations. Only the Dorada still operates a railway, and in 1947 it was able to pay its debenture interest with 4 per cent. free of tax, equal to 7⅛ per cent. less tax. The total shown as invested in railways is £1,817,024, on which interest of £55,110, or 3 per cent., was paid. The amount receiving no interest was £1,024,420.

The Scrap Heap

DIRECTORS' MITE

Addressing the recent annual meeting of the Vulcan Foundry Limited, the Chairman, Mr. F. S. Whalley reviewed the expenditure on every £1 of sales as follows: Wages and salaries including national insurance take 8s. 0½d.; materials, including coal, gas, and miscellaneous expenses, 10s. 0¾d.; taxation takes 8¾d.; there is retained in the business 6½d.; and there is paid out in dividends 7d., and directors' fees ½d.

* * *

BRIDGES IN RETIREMENT

Referring to our comments on "Bridges in Retirement" in the April 30 issue, Mr. Courtenay Barry recalls the transfer of a complete railway bridge to a new site where it now serves as a road bridge. This is in Salisbury, where the original iron structure of the Castle Street railway bridge was transferred to carry a road across the River Avon nearby when a new bridge was built for the railway.

* * *

APPEAL TO CONSCIENCE IN BURMA

The Burma Railways have organised a Moral Uplift Team which will tour over the whole system with the object of creating goodwill, and obtaining maximum co-operation from the public in stamping out all corrupt practices, including ticketless travel. The team is provided with loud-speakers to aid its work, and lectures are given both on trains and at stations. A special flying squad of travelling ticket examiners also has been formed, and this squad carries out intensive checks on sections immediately in the wake of the Moral Uplift Team. The results are said to be satisfactory.

* * *

GENERAL GORDON AT CHARING CROSS

Lytton Strachey, not the most accurate of writers, says in his "Eminent Victorians" that Gordon left for Khartoum from Victoria. In fact he went from Charing Cross.

Mr. Francis Cosgrave writes to me from Darlington confirming this. He was himself in the station at the time. He worked at W. H. Smith's bookstall there.

Gordon left by the 8.5 p.m. boat train, which ran every Friday. He came to the stall with the Duke of Cambridge and Lord Wolseley. Lord Wolseley, Mr. Cosgrave adds, bought him the papers.—"*Peterborough*" *in* "*The Daily Telegraph*."

* * *

FLARES AS RAILWAY DANGER SIGNALS

On the occasion of a bad railway accident several years ago it was suggested by *The Spectator* that when a train is stopped at night unexpectedly the guard should run back over the line not with a quite inadequate red lamp, but with a flare such as are used by ships in distress at sea. The difference, when it is a question of stopping an oncoming train, is obvious. A red light cannot be seen round a curve; a flare lights up the whole sky. I hope the Railway Executive will consider this.—"*Janus*" *in* "*The Spectator*."

* * *

EARLY DAYS OF THE DUNLOP TYRE

Apocryphal statements appearing in some quarters regarding the evolution of the Dunlop pneumatic tyre have been followed by a letter from Mrs. Jean W. McClintock, daughter of John Boyd Dunlop, in which she corrects some of the errors in danger of being perpetuated by articles during the recent diamond jubilee of the tyre. She says it is nonsense to state that Dunlop tested his first tyre by filling it with water.

It is equally wide of the mark to say he had once entertained the idea of using a hosepipe as a tyre. On this story, Dunlop himself made the following comment quoted by Mrs. McClintock:—

"The garden hosepipe story is childish—the material is so inelastic that it would be incomparably slower than a solid tyre. It could not be ridden on the road for 100 yards without being cut to pieces, and I should deem it impossible for an amateur to make an inner tube small enough to be drawn into the hosepipe—not to mention the inserting of a valve. The internal diameter of a hosepipe would be about equal to the diameter of one's little finger."

"*Aren't you rather overlooking the fact that it's MY railway too?*"

[*Reproduced by permission of the proprietors of* "*Punch*"

100 YEARS AGO

From THE RAILWAY TIMES, *May* 20, 1848

OFFICIAL SALARIES.

To the Editor of the Railway Times.

SIR,—I think you would be conferring a great benefit on railway shareholders generally, if you could present a statement of the sums paid to the different persons forming the staff of the roads now in full operation. A report is prevalent that the grossest jobbing exists in the management of some of these railways, and that the most enormous salaries are voted, by inefficient Boards, to secretaries and others, to cover their own unfitness for the Directory.—Yours, &c.,

A SUBSCRIBER TO YOUR VALUABLE PAPER.

April 29, 1848.

[If our correspondent be a shareholder he can, much more readily than ourselves, obtain the information he asks of us. We give his letter a place, in order that the justice or injustice of his assertion may be fully tested.—ED. *R. T.*]

* * *

ROUND TRIP

Canadian National Railways officials tell the story of a woman who travelled 900 miles on a 55-cent railway ticket—legally. They blame it on the recent floods. The woman left North Battleford on a Saturday with a return ticket for her home at Delmas, Sask., ten miles away. On Monday she still was travelling, after having been rerouted to Saskatoon, Kindersley, Hanna, Alberta, Edmonton and Lloydminster. She reached home on Thursday.

* * *

ROAD TO RUIN

Addressing the Corporation of Certified Secretaries at Blackpool on May 15, Sir Francis Joseph said that if the results of the coal, railway, gas, electricity, and civil aviation industries were grouped and compared with those before nationalisation, it was found that the country was poorer by £200 millions a year. Coal, the greatest of our natural resources, had been raised by 6s. 6d. a ton since it was taken over by the State, which meant an extra charge of £65 millions a year. Railway rates were up and it looked as if they would have to be increased still further. Gas and electricity were going the same way, while the losses on civil aviation suggested an early appointment with the Official Receiver. To experiment with other industries at this moment was sheer folly.

* * *

RESTAURANT CAR WAGES AND TIPS

The dispute between British Railways and its dining car attendants over the 10 per cent. surcharge on meals raises interesting and not unimportant questions. The 10 per cent. was originally in lieu of tips, a satisfactory arrangement for which there was everything to be said. Then the wages of the attendants were raised, and the railways, to cover that, decided to annex the 10 per cent. themselves. The waiters, who apparently want both the increased wage and the same tips, protest that their total intake will be seriously reduced, for the luncher or diner will be indisposed to add much in the way of tips to a 10 per cent. exaction. The company's [*sic*—Railway Executive] action seems to me altogether shabby. If they must increase the price of a meal from, say, 3s. 6d. to 3s. 9d. or 3s. 10d., let them do so openly and put it on the menu card. The present method looks very much too like an attempt to appropriate the attendants' perquisites. Of course, the right thing is to give the waiters adequate wages and no tips, but deep-rooted custom will, no doubt, secure them both.—"*Janus*" *in* "*The Spectator*."

OVERSEAS RAILWAY AFFAIRS

(From our correspondents)

SOUTH AFRICA

Suburban Collection and Delivery Service

On February 1, the railway administration began a new service to the Johannesburg suburbs. Specially converted lorries, equipped with scales, make a daily tour of the suburbs, stopping at scheduled places to collect and deliver parcels. A timetable has been issued, but householders not living on a scheduled route will be served if they so desire on telephoning for a lorry to call. A railway clerk on the lorry works out the charges on the spot. This door-to-door collection and delivery of parcels makes it unnecessary for suburban residents to travel to the station to despatch them.

Natal System Expenditure

In the estimates for capital & betterment works for the year 1948-49, a further £10,105 has been allocated for work on the Umkomaas Bridge, which now is estimated to cost £132,650. Other bridges on the Clairwood-Port Shepstone line (see also *The Railway Gazette* of May 2, 1947), the total cost of which is estimated at £149,118, will have a further £40,376 spent on them this year.

Additional track in Natal, in the shape of quadrupling and doubling of existing lines, will require £51,141 in the ensuing year. The total cost of this work is about £916,000, of which £146,800 has been spent already. Regrading and deviations will absorb £89,200, and £44,000 has been allocated towards the building of new stations. Other works on open lines on the Natal System will take £126,320 this year, the biggest item of this amount being £100,000 for the Durban marshalling yard. Railway mechanical workshops will have a further £110,113 spent on them for improvements, which already have cost £708,779. The total cost of these undertakings will be £2,826,500. Electrification in this Province receives a further £107,000, the largest item of this sum being £50,000 for the Umbilo running shed.

INDIA & PAKISTAN

Strike Threat in Pakistan

The Central Executive of the N.W.R. Workers' Trade Union has called a general strike from May 27, in case the railway administration fails to concede the union's demands for implementing the recommendations of the Central Pay Commission, which was set up before partition; and to release the union's President and other workers. The President's arrest was reported in *The Railway Gazette* of April 16.

Rates Tribunal to be Set Up

The Indian Minister of Railways, Dr. John Matthai, has introduced a Bill in the Dominion legislature providing for the setting up of a Railway Rates Tribunal and for the appointment of claims commissioners. The Railway Rates Tribunal, which is to be set up to comply with a long-standing public demand, is intended to be an inexpensive forum for considering public complaints relating to rates and charges for merchandise traffic by goods trains; and complaints of undue or unreasonable preference. As the decisions of the tribunal will be final, complaints are expected to be disposed of expeditiously.

In addition, the tribunal's permission will have to be obtained before railways can increase the level of "class" or "schedule" rates in force; or terminal or other charges; or before any commodity is classified in a higher class, or an unclassified commodity is classified.

The object of the appointment of claims commissioners is to remove hardship which is at present experienced by passengers as a result of delays in the payment of compensation to those injured or to dependants of those killed in accidents to passenger trains. It is intended hereafter to entrust such matters to the claims commissioners appointed by the Central Government. In addition to receiving and inquiring into claims for compensation, the claims commissioners will be empowered in appropriate cases to make interim payments up to an amount not exceeding 50 per cent. of the compensation which is estimated to be payable.

Coal Supplies for Pakistan

Coal supplies from India still cause considerable anxiety, but the arrival in Karachi of several coal ships from the United States and the United Kingdom has had a reassuring effect. The North Western Railway is proceeding with its programme of converting locomotives to oil-burning, and is investigating the possibility of introducing diesel-electric and gas turbine locomotives.

Pakistan Labour Problems

Labour problems are still exercising the minds of the administration. Unrecognised unions, under Communist influence, are agitating the staff and are harping constantly on the retrenchment policy of the railways. This has been forced on them owing to the large number of men in some categories, notably locomotive running staff, who came to Pakistan from Indian railways. Discharges, based strictly on seniority, are now taking place, but strenuous efforts are being made to find alternative employment for all those who are retrenched.

CANADA

C.N.R. Deficit Forecast

A deficit of $23,400,000, after paying all interest charges, is forecast for the Canadian National Railways in the 1948 calendar year in the budget tabled in the Canadian House of Commons on April 14 by the Hon. Lionel Chevrier, Minister of Transport. Total operating revenues for 1948 are estimated at $445,000,000, operating expenses at $413,000,000, and net operating revenue at $32,000,000.

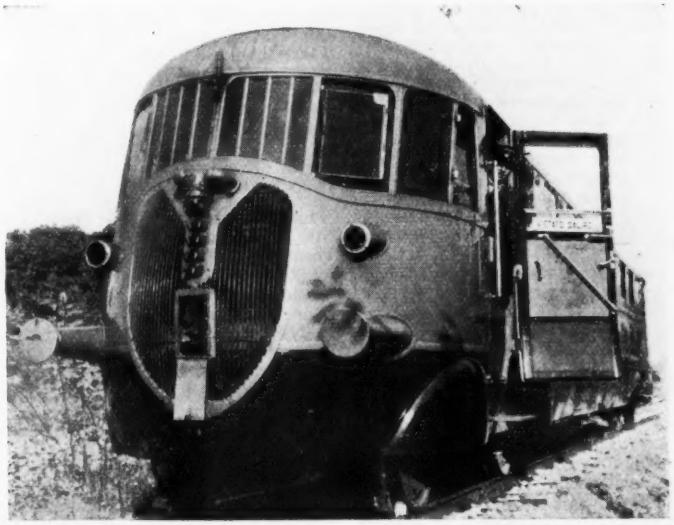
The 1948 equipment programme is estimated to cost $59,000,000, although it is expected that equipment to the value of only $22,509,000 will be delivered within the year. Additions and betterments will cost $20,250,000. Important items in the programme include 2,000 50-ton box wagons for Canada and 700 for the Grand Trunk Western system; 1,000 40-ton motorcar vans; 20 1,000-h.p. diesel shunters; two 4,500-h.p. diesel main-line locomotives; 25 air-conditioned coaches; 20 sleeping cars; 50 luggage vans; and 50 refrigerator vans.

ITALY

Diesel Railcar Services

Pending the restoration of electric services on lines where the overhead equipment had been removed or damaged during the war, the Italian State Railways have been making use of diesel railcars. The unit illustrated is powered by two 75-h.p. Fiat diesel engines, with hydraulic transmission through a four-speed gearbox. The maximum speed of operation on the level is 68½ m.p.h. The car is mounted on two four-wheel bogies and weighs 25 tons 10 cwt. in working order (fully loaded). Seats are provided for 56 passengers. Two cars can be coupled together, the point of attachment for the drawbar being visible in the illustration. The engines are water-

Railcar Substitute for Electric Trains in Italy



One of the Fiat railcars used to maintain services on lines where electrical equipment was destroyed during the war

Photo] [*A. C. Ping*

cooled, and the cars are heated by the circulation of air warmed from the exhaust gases. Using naphtha as fuel, the average consumption is 10·15 lb. a mile. Each car measures 60 ft. 6½ in. in length over buffers and the body has a maximum width of 7 ft. 10½ in. The bogies are at 39-ft. 8-in. centres and have a wheelbase of 9 ft. 2 in. The wheel diameter is 2 ft. 11¾ in.

New Ferry for Messina Routes

A new diesel ferry for services between Messina, Villa San Giovanni, and Reggio Calabria was launched near Genoa by the Tirreno Shipbuilding Company on April 13, and will be in operation by the middle of the year. A sister ship, now under construction, will be ready by the end of the year.

Both ferry ships will have three tracks on deck, converging into a single track for loading and unloading over the bows. At one of the Messina docks it is possible to load on to the three tracks simultaneously over the stern. On the Messina—Villa San Giovanni crossing, the ships will carry through sleeping cars for Sicily between Rome, Palermo, and Syracuse.

FRANCE

Paris Passenger Transport Deficit

The law for the reorganisation and co-ordination of the Greater Paris passenger transport traffic was passed by the National Assembly on March 21 last. Pending the constitution of the new board, the Paris Metropolitan underground and bus lines continue under provisional Government control. The new Paris Passenger Transport Board, which will be known as the R.A.T.P. (Régie Autonome des Transports Parisiens) is not expected to be in readiness to take over until January 1, 1949 (see also *The Railway Gazette* of March 7, 1947).

Meanwhile the provisional Transport Commission is considering measures to deal with the deficit of the Metro and bus lines.

Estimated Metro Deficit

The proposal to raise the existing Metro fr. 5 flat fare is meeting with opposition. Unless fares are raised, the deficit for 1948 is estimated to rise to fr. 7,800 million, including fr. 1,000 million for urgent replacement of worn-out equipment.

Operating deficits of tramway and bus lines are reported also from various large towns, such as Marseilles, Lille, Rouen, Havre, Dijon, and Boulogne. The French Treasury is considering a plan for meeting the deficits by provisional grants to the extent of one-half, the other half to be raised by higher fares.

Publications Received

Beyer-Garratt Articulated Locomotives. Published by Beyer, Peacock & Co. Ltd., Gorton Foundry, Manchester. xvi + 164 pp. 11½ in. × 8½ in.—This is the companion volume to the same firm's "Locomotives by Beyer, Peacock & Co. Ltd.," which was reviewed in our issue of April 18, 1947, but is a much larger work, and even more lavishly produced. No pains have been spared in producing this comprehensive work on the Beyer-Garratt locomotive, which in recent years has reached a new high level of technical development, after forty years' steady progress in various countries all over the world. The present brochure is splendidly illustrated, and even at a first glance the reader cannot fail to appreciate the extraordinary variety of climatic conditions under which these locomotives are at work —the scorching heat of the Australian Portland Cement works and the snow-walled track in the heart of the Andes. These typical photographs of the locomotives at work in their normal surroundings form one of the most interesting features of the book, and in addition each principal type is accorded an official photograph. The general plan of the work is to give, after a brief introduction of about ten pages, a short description of the principal types built for each gauge, starting with the pioneer "Garratt" for the 2-ft. Tasmanian Government Railways' line in 1908, and working through 2-ft. 6-in., 3-ft., meter, and 13-ft. 6-in. gauges to the wide range built for standard, 5-ft. 3-in., and 5-ft. 6-in. gauges. The great Russian 4-8-2 + 2-8-4 built in 1932, is an interesting example of a special design for excessively cold working conditions—a temperature of 41° C. (74° F. of frost) was encountered during trials. With each locomotive type there is a tabular list of dimensions, though as the boiler proportions are one of the most important characteristics of the Beyer-Garratt type, it would add greatly to the value of future editions if the dia. and length of the barrel could be included. Another welcome addition would be a fairly simple general-arrangement illustration, either a line-drawing or a colour-wash, to show the internal arrangement. Special mention is made of the firm's steam-reversing gear, but we should like to know a little more about one or two other devices which have been brought into use with Beyer-Garratt designs—for instance, the method of moving the water tank at the chimney end, to allow for withdrawal of the boiler tubes. Perhaps, however, as the book is intended for non-technical railway officers as well as for engineers, the publishers felt that too great a wealth of engineering detail could not be included. Therefore, they have set out to give a general description of a wide variety of Beyer-Garratt locomotives, and in this they have succeeded admirably; as an addition to railway literature, this production is worthy of the highest praise.

"The Welder." Railway Number.—The October-December, 1947, issue of this magazine, which is published by Murex Welding Processes Limited, of Waltham Cross, Herts., is a special railway number, and includes a number of contributions by authorities on the scope of railway welding. The illustrated articles cover various fields in which welding has been adopted by the railways, and among the applications dealt with are the fabrication of wagon frames, civil engineering, welding at Doncaster and Swindon Works, prefabricated experimental unit stations, fabrication of tank locomotives, and "Merchant Navy" class locomotives. Among the contributors are Mr. F. W. Hawksworth, Chief Mechanical Engineer, Western Region, Mr. H. G. Ivatt, Chief Mechanical Engineer, London Midland Region, Mr. A. H. Peppercorn, Chief Mechanical Engineer, Eastern and North-Eastern Regions, Mr. W. S. Graff-Baker, Chief Mechanical Engineer (Railways), London Transport Executive, and Mr. W. K. Wallace, Chief Civil Engineer, London Midland Region.

La Locomotive Actuelle (The Locomotive of Today). By Emile Devernay. Third Edition. Paris, 6e, 1948: Dunod, 92, Rue Bonaparte. 9½ in. × 6 in. 530 pp. Illustrated. Paper covers. Price fr. 950 net.—The author begins his detailed analysis and description of the steam locomotive from basic principles, with a discussion of the relevant physics and mechanics. An illustrated review of significant stages in locomotive development follows, leading up to the account of its construction and operation that forms the main body of the work. These sections include a valuable collection of diagrams of the principal parts, frequently in conjunction with half-tone illustrations of the components concerned. While French practice naturally preponderates, developments elsewhere are surveyed for purposes of comparison, among them being the chain-driven valve gear of the Southern "Merchant Navy" and other Pacific locomotives.

Matters sometimes accorded scanty treatment in books on the locomotive, such as testing apparatus, axleboxes and bearings, riding qualities and behaviour on curves, braking systems, tender design, and speed-recording equipment are here the subjects of separate chapters. An illustrated appendix of 95 pages reviews modern locomotives of France, Great Britain, the United States, and other countries, and on its own account forms a valuable source of reference for all who are interested in steam traction, particularly in view of the tabulated dimensions which occupy 11 pages at the end of the appendix. A high standard is looked for naturally in technical books of this kind published in France, which has contributed so much to steam locomotive development, and the present volume fully maintains the reputation expected.

"Soundings." April, 1948. London: The Cawder Publishing Co. Ltd., 7, Montpelier Street, S.W.7. 10¼ in. × 7¾ in. 64 pp. Paper covers. Price 2s. 6d. (Subscription 30s.).—The nationalisation of the four British main-line railways, no doubt, has caused many members of the travelling public to consider the reasons which impel a Government to take such a drastic measure. This public concern, however, can have given little surprise to Mr. Roger Fulford, who, in an article entitled "The Fate of the British Railways" in the April issue of *Soundings*, declares his belief that all travellers are railwaymen, and have long assumed a considerable knowledge of railway affairs. Whether the average traveller in fact adduces cogent reasons for the nationalisation of the railways is open to question, though undoubtedly his interest has been aroused and his optimism renewed.

Mr. Fulford here makes pertinent observation of the competition between certain of the earlier railways and alternatively of the disabilities arising from the centralisation which followed the grouping; he shows particular concern over the decline in certain passenger services under centralisation and supports his contentions with suitable factual evidence. The author's declamation of extremities of management is the outcome of his observations and it is disappointing to find that he devotes so little attention to the solution of the problem.

Danish Combined Bus and Railway Stations

A programme for the building of bus stations at existing railway stations in Denmark is now showing results

BY co-operation between the Danish State Railways and bus companies still in private ownership, several bus stations linked with railway stations have been built in Denmark and many more are projected.

This movement towards co-ordination mostly followed establishment of bus termini in the larger towns and resulted from a demand for direct communication between railway and bus stations. The development was facilitated by the absorption of a number of bus routes by the State Railways. The routes taken over were generally the most important and frequently ran parallel to the railway. The railways were thus in a position to influence the location of the bus station and were, of course, better able than the bus companies to raise the necessary capital for the project.

The Vejle Station

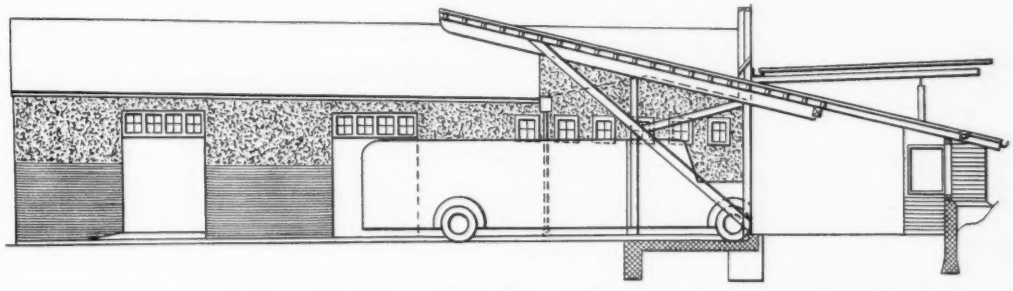
The private companies participated fully at Vejle bus and railway station, the main example to be considered, where the population is about 30,000. A co-operative association of the bus companies and the State Railways was formed to run the station. The association rents the buildings from the town council and the State Railways, which were jointly responsible for the construction work.

The bus station caters for about 25 routes and has been built on land owned by the State Railways adjoining the existing railway station, as can be seen from the accompanying plan. The main building and platform giving access to the 15 bays provided for buses are on a lower level than the railway station. The platform, apart from the difference in level, is continuous with the railway platform. The bus platform is protected from the weather by a roof and a glass wall at the back adjoining the railway track. Other amenities are a kiosk for newspapers and confectionery and a small waiting room intended only for passing travellers, as passengers also have the use of the railway waiting room. The main building contains offices, a parcels office, cloak rooms, a room for drivers and conductors, and other amenities.

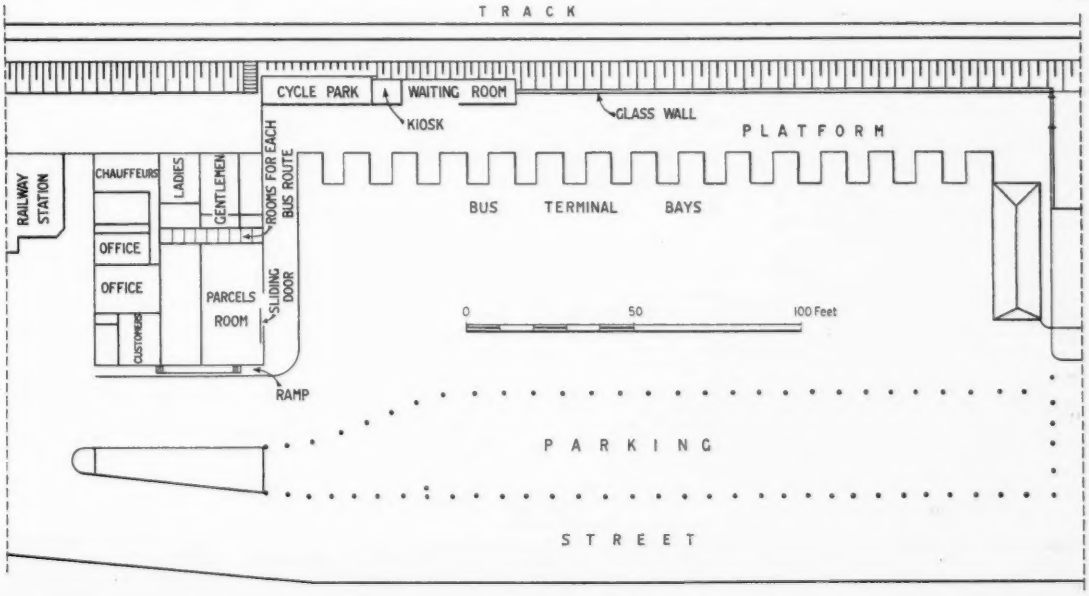
Combined stations have also been contrived at smaller centres. At Løgstør, for example, a town with a population of 3,000, a bus platform, serving seven bays, has been built at the rear of the existing railway station. Bus passengers and staff have the use of the railway building, which is conveniently situated in relation both to buses and trains. Here the bus platform, but not the space for the buses themselves, is roofed in and the railway and bus platforms connect by a sliding door.

Railway and Council Co-operate

Similar arrangements are in force in other towns. At Haslev, a town of about 5,000 inhabitants, the town council rents rooms for bus staff and parcels from the State Railways and arrangements have been made for passengers to use the railway waiting room and toilets. In many cases, however, the system of sharing railway facilities is a temporary measure, due to be superseded by erection of an additional building for the bus station when conditions permit. At Haslev the State Railways have provided a site where the town council eventually will erect a separate building for the bus station at its own expense.



Side view of the bus parking space at Vejle combined station, showing bus in position



Plan of bus station adjoining Vejle railway station

Electrifying the Former San Paulo Main Line

British firms supplying equipment for converting 67 km. of the railway, together with locomotives and rolling stock

IN September, 1946, the English Electric Co. Ltd. was awarded a contract by the San Paulo (Brazilian) Railway Co. Ltd. for the electrification of a part of the railway's main line. Electric traction, operating at 3,000 volts d.c., is already in operation on the Paulista Railway, from its inland network as far as Jundiahy, where it joins the San Paulo Railway (known, since its acquisition by the Brazilian Government in 1947, as the Estrade de Ferro Santos a Jundiai). The

The San Paulo main line, showing section where electrification is in progress and connecting railways

new electrification scheme covers the 67-km. section between Jundiahy and Moocha, a railway junction some 5 km. beyond the important industrial town of San Paulo.

It is envisaged that ultimately the electrification will extend first to Alto da Serra, and later to the port of Santos. Along the route from Jundiahy to Santos passes the major portion of the great Brazilian export trade in coffee, cotton, and other primary products.

Electric Locomotives

The English Electric Co. Ltd. is supplying 15 electric locomotives, operating at 3,000 volts d.c., of 3,000 h.p. each; these are the largest single-unit electric locomotives to be built up to the present time in Great Britain. The contract also covers three 3-coach multiple-unit trains. Also, the company is supplying three new mercury-arc rectifier substations, with supervisory control equipment; and 33-kV. switching and transforming apparatus for controlling the main power supply to the substations.

The supply and installation of overhead track equipment is being undertaken by British Insulated Callender's Cables Limited. This consists of steel structures, catenary wires, contact wires, transmission lines, signal lines, and supervisory control lines. Catenary construction is employed as train speeds will reach 100 km.p.h. In addition to the contact wires, the overhead equipment will carry the necessary signal lines, duplicate 33-kV. power circuits to feed substations along the route, and a catenary-suspended supervisory control cable for the remote control of substations and track-selection cabins. The route length to be electrified is 67 km. The total length of all track to be equipped is 190 km.

This work will involve the erection of about 4,000 tons of steel structures and the suspension of copper wire totalling about 1,000 tons. Roughly, three-quarters of the steel structures will be of the broad flange beam type. These are being rolled and fabricated in the works of the Cargo Fleet Iron Co. Ltd. at Middlesbrough. The first twenty were completed and made ready for shipment during September, 1947. The balance of these support structures will be of the lattice bridge type, and are to be supplied by the firm of Painter Bros. Ltd., of Hereford.

Progress to Date

All copper conductors will be made by B.I.C.C. at the company's Prescot works. Copper will be supplied from the firm's own refinery. Nearly all overhead line fittings also will be manufactured at Prescot to the company's own designs.

Engineers from the English Electric Co. Ltd. and from B.I.C.C. Ltd. have been in San Paulo for over twelve months. The necessary survey work is almost complete, and 40 per cent. of the concrete foundations have been installed already since the work was begun in March. When completed, this line will constitute one of the most up-to-date electrifications in the world.

Multi-Notch Control for French Locomotives

Developments in electro-pneumatic and electric camshaft equipments

RECENT main-line electric locomotive designs in France have shown a tendency towards control arrangements aimed at obtaining a fine gradation of tractive effort by a multiplicity of controller notches. The locomotives concerned are the Co-Co type, No. 6001, which appeared in 1946, and a 2-Do-2 at present under construction for express traffic on the Paris-Lyons main line when it has been electrified.

In the Co-Co locomotive the combinations of the six motors are: all in series; two parallel groups of three motors in series; and three parallel groups of two motors in series. With 78 full-field notches, and 9 shunt-field notches (4 with resistance in circuit) in each combination, there is a total of 105 notches, 13 of which are running positions selected automatically by the controller through the medium of an accelerating relay. An additional handle on the controller permits of manual notch-by-notch control throughout the range when required. Transition is effected by a separate lever.

Balanced Bridge Transition

The system of transition is what is known as "balanced bridge," the ordinary resistance contactors being brought into operation automatically until equal currents are flowing in motors and resistances, when the bridge current is zero and the bridge connection is broken by a relay. All the control operations are effected by three groups of electric camshaft-operated contactors, of which there are 79 for regulation of the resistances, field-shunting, and transition. Three additional electro-pneumatic contactors make the connections necessary for regeneration.

The electrical equipment of the locomotive was supplied by the Forges et Ateliers de Construction de Jeumont, and has been described in the *Revue Générale des Chemins de Fer* by M. Heidmann, Technical Director of the company.

Camshaft control is being adopted also in the new 2-Do-2 for the Paris-Lyons services, described recently in our contemporary *Chemins de Fer*. In this example the number of notches has been increased by a vernier arrangement, which connects a resistance in parallel with each section of the main starting resistance, and cuts it out in seven steps. The motors have series, series-parallel, and parallel connections, with 23 notches in each condition (15 with series resistance, 1 full-field, and 7 shunt-field). There are therefore 69 main notches in the accelerating sequence, of which the full-field and shunt-field positions with each motor coupling (24 in all) are running notches. Using the vernier, there is in effect a total of 294 notches. A complete rotation of the vernier handle advances the main controller one notch.

The camshafts operating the main and vernier control contactors are rotated by compressed-air servo-motors. When either controller is moved, a solenoid is energised which admits air to the servo-motor concerned, and remains so until the camshaft has rotated through a corresponding angle.

Differential Controller

The solenoid circuit is made and broken by cam-operated contacts mounted on a shaft coupled to the controller handle through differential gearing. The cam rotates in one direction when the controller is moved, and then is turned the reverse way by the camshaft until, reaching the point from which it started, the contacts are broken and the camshaft arrested. Movement of the controller through several positions at a time results in the opening of a second set of larger air valves, so that the camshaft rotation is accelerated.

Thirty-five of the 2-Do-2 locomotives are being built for the French National Railways by the Compagnie Electro-Mecanique Fives-Lille.

SWISS-BUILT LOCOMOTIVES FOR HOLLAND.—The first of three electric passenger and goods locomotives ordered by the Netherlands Railways from Swiss manufacturers was delivered recently in Holland and was placed in service on April 16. The weight of the locomotive in working order is approximately 100 tons.

SINGLE-PHASE TRACTION AT 50 CYCLES.—The Swiss Locomotive & Machine Works and the Oerlikon company have secured an order jointly from the French National Railways to build a prototype Co-Co electric locomotive for operation on a 50-cycle single-phase supply. (See also our March 26 issue).

Design of Bogies for Electric Locomotives

Reduction of wear on flanges by the use of transverse coupling designed after experiments with models

LOCOMOTIVES of the Bo-Bo type, introduced recently in Switzerland, have been fitted with an improved type of bogie, developed, after considerable experimental work, by the Swiss Locomotive & Machine Works of Winterthur. When the design of bogies for the recent 4,000-h.p. locomotives of the Lötschberg Railway was under consideration (see *The Railway Gazette* of August 16, 1946), the following points were borne in mind:—

(*a*) To keep the bogie beams as straight as possible, and neat in design, the parts transmitting forces being designed to suit the actual conditions that would be encountered.
(*b*) Location of the bogie pivot bearing on the same level as the axle centres.
(*c*) Easy separation of the bogie from the locomotive body.
(*d*) Lateral movement and spring support for the body.
(*e*) Minimum play in the axlebox guides, movement being cushioned by rubber buffers.

All hollow beams were designed in such a way that they remained as straight as possible during welding, and the welding of seams at exposed positions, or in places subject to high stresses, was avoided as far as possible. In addition, the bogie frames were attached to an adjustable welding frame during construction, so that the workpiece could be welded in the most convenient positions. Good running qualities were secured by the use of cylindrical axlebox guides incorporating Silentblocs, which limited play in the guides to a minimum, and helped to damp lateral and longitudinal shocks.

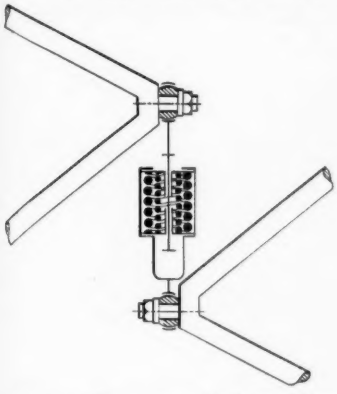


Fig. 1—Transverse bogie coupling

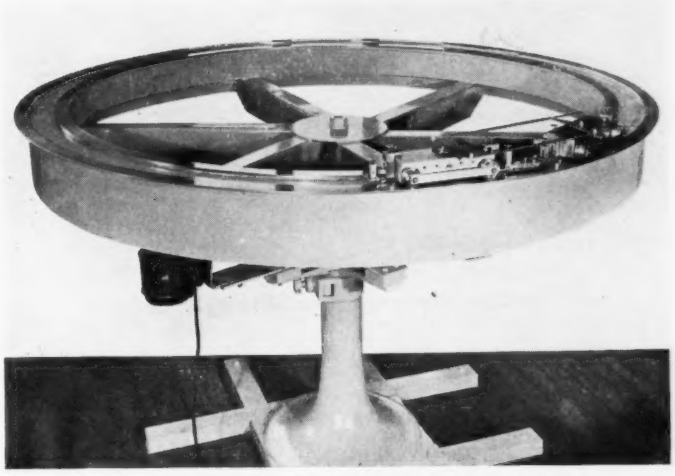
Similar bogies were fitted to the recent "Re 4/4" lightweight electric locomotives of the Swiss Federal Railways (see *The Railway Gazette* of November 8, 1946). Whereas the Lötschberg Railway design had aimed at a maximum weight available for adhesion, in order to minimise current consumption on steep gradients, the Swiss Federal Railways requirements were primarily for a lightweight locomotive that would be able to negotiate curves at speed without imposing undue stress on the rails. By reason of the higher speeds, the axle loading on the Swiss Federal locomotives was chosen as 14¼ tons, instead of 20 tons as in the Lötschberg design. Permissible speeds with a 20-ton axle load on the Swiss Federal Railways were as shown below:—

Radius of curvature	Superelevation	Admissible speed with 20-ton axle load
300 m.	150 mm.	70 km.p.h.
500 m.	126 mm.	90 km.p.h.
700 m.	100 mm.	100 km.p.h.

It was calculated that with an axle load of 16½ tons, an increase in speed of 10 km.p.h. over the above limits would be permissible, and this figure actually was chosen for the "Re 4/4" locomotives with their 14¼-ton axle load.

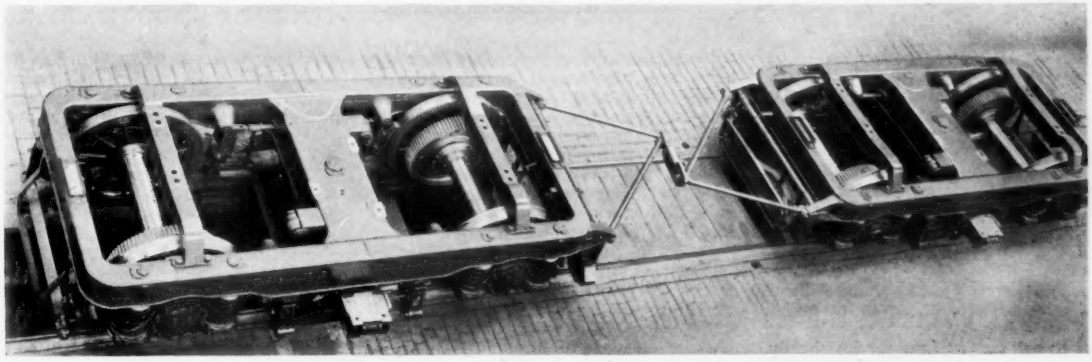
Both the Lötschberg and Swiss Federal Railways locomotives are provided with a transverse coupling between the bogies, and a centering device to prevent hunting, together with the friction dampers on the axlebox guides which have been mentioned already. The transverse coupling arrangements were devised after tests with models on a specially designed apparatus.

It was found that if two bogies are coupled by means of a transverse bar, the following effects are obtained: (a) a reduction in the guiding pressure on the leading axles of both bogies; and (b) a reduction in the angle of incidence of the leading axles. It was found that in certain conditions both bogies were guided by the leading axle of the front bogie only, and in these circumstances the guiding pressure and the angle of incidence were much smaller than in the case of free-running bogies. A suitable coupling, therefore, reduces considerably the wear and tear on the wheel flanges, and the type adopted is shown in one of the photographic illustrations, and in Fig. 1.



Apparatus for investigating behaviour of coupled bogies

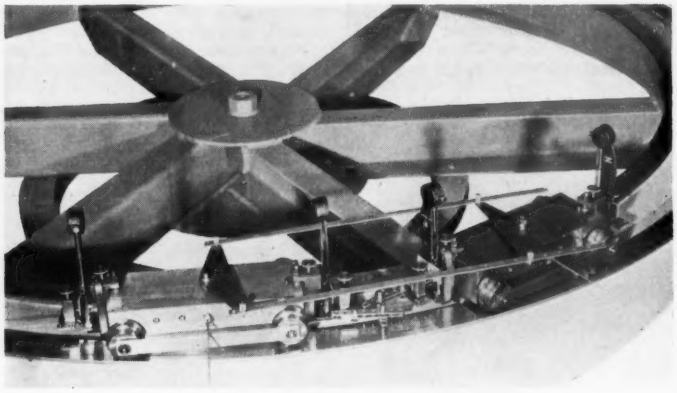
The two bogies are connected by a spring coupling at the end of a triangular yoke on each bogie. The coupling permits a degree of side play adjustable to any value between 20 and 500 mm., after



Motor bogies coupled through triangular yokes and the spring link shown in Fig. 1

which further relative movement is controlled by two helical springs, which may be adjusted to allow a maximum movement of 24 mm.

The yokes have freedom of relative movement towards or away from each other, and changes in the angular relationship between the bogies is permitted by the ball joints between the ends of the spring coupling and the yokes.



Model bogies under test on rotary track

The behaviour of bogies coupled in the foregoing manner was investigated on an apparatus consisting of a horizontal wheel with its upper edge representing the track. Model bogies were held stationary on the track by means of a cord, and the wheel rotated by hand or by means of an electric motor. Each bogie had a guiding wheel on a vertical axis running in a shallow groove in the track, and of such a diameter that some lateral movement of the bogies was possible. These guiding wheels resisted lateral forces normally absorbed by the wheel flanges (the model bogie wheels were flangeless), and the forces were measured by means of four Huggenberger tensometers, fitted at the ends of both bogies.

In the Lötschberg Railway locomotive, the design of the swing bolster and the attachment of the body to the bogie are based on new principles. The primary aim was, on the one hand, to have the pivot bearing as low as possible, thus minimising the unavoidable changes of load on the driving axles under the influence of tractive effort; and on the other hand to improve the riding qualities of the bogie. In addition, the locomotive body should rest on a transversely oscillating system on the bogie frame in order to take lateral thrusts, so that it appeared desirable to adopt lateral bearings in order to damp hunting movements and diminish the stressing of the swing bolster beam. In spite of these complex requirements, the whole construction had to be kept as light as possible.

The drawing, Fig. 2, shows the type of body suspension adopted and the novel design of the swing bolster. The locomotive body, 1, is provided with brackets 2; they are bolted firmly to the body transverse beam, which is constructed as a hollow girder. The ends of this girder are supported on sliding bearings on the buckle of the lateral laminated springs 3, which are attached to the bogie frame at their ends by means of obliquely-set links. The two springs are joined rigidly together by the transverse beam 4, which is attached to the bogie frame by the rod 5.

Since the beam, 4, must follow, on the one hand, the transverse oscillations of the locomotive body 1, and on the other hand also the rotary movements of the bogie, it is connected by means of a spherical pivot 6 to the transverse beam 7 of the locomotive body. The bearing of this pivot in the cross-beam, 4, has some play in the longitudinal direction of the bogie, but none in the transverse direction. Consequently, the longitudinal forces originating from the locomotive body are not taken up in this beam; these pulling and braking efforts are transmitted from the bogie to the locomotive body and *vice versa* through the pivot pin, 8, the bearing having lateral play.

The locomotive body thus can rock in the transverse direction with respect to the bogie frame, and move up and down vertically, without disturbing the transmission of the traction and braking efforts acting in the longitudinal direction. When running round curves, the transverse beam, 4, turns with the bogie frame because of the rod 5 mentioned above. The oscillating suspension of the locomotive body diminishes the lateral shocks to which it is subjected, and thus contributes in an important measure to the preservation of the superstructure.

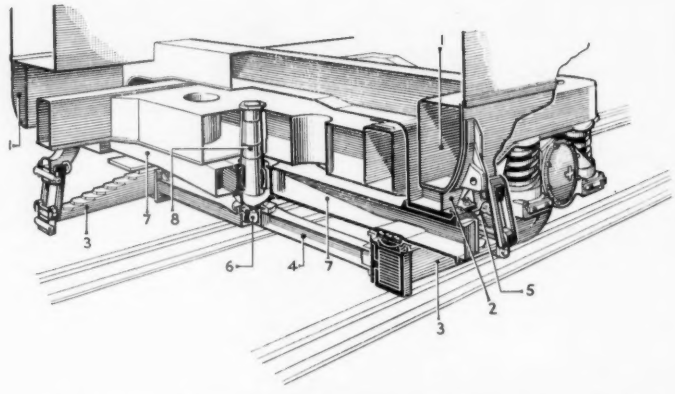


Fig. 2—Body suspension of Lötschberg Railway locomotive

NORD-MILANO ELECTRIFICATION.—Conversion of the 17½ miles of the Nord-Milano Railways line between Meda and Canzo-Asso was completed on January 15, and work is in progress on converting the 15 miles from Malnate to Grandate. These are stages in the 5-year electrification plan of this privately-owned Italian system which was described in our August 15, 1947, issue.

STOCKHOLM-GÖTEBORG ELECTRIC TRAINS.—Six new express electric trains ordered by the Swedish State Railways for service on the main line between Stockholm and Göteborg will be put into service shortly. The new trains will be equipped with many modern improvements, such as revolving armchairs in the second class sections, and comfortable double-seat sofas in the third class, instead of the usual four-seat arrangement. Broad windows will permit unobstructed observation in all directions, including a forward view through the glass wall separating the driver's compartment from the rest of the train. Meals and refreshments will be served to the passengers from a pantry. Each train, consisting of three coaches, will accommodate 30 second class passengers and 148 third class. The trains, which are being built by A.B. Svenska Järnvägsverkstäderna, Linköping, and by the Kockum Company, Malmö, will be powered by four A.S.E.A. motors, developing together 1,360 h.p. and giving a maximum speed of 85 m.p.h. The Stockholm-Göteborg route will be covered in about 5 hr., or nearly 2 hr. less than at present, which will involve an average speed of about 55 miles an hour.

SWISS HIGH-SPEED LOCOMOTIVE TESTS.—High-speed tests between Berne and Geneva, a distance of 98·7 miles, were carried out recently with a train consisting of one of the Swiss Federal Railways "Re 4/4" electric locomotives and six lightweight coaches. The train left Berne at 11.40 a.m. and passed Fribourg (19·8 miles) at 11.59. Between Lausanne and Geneva (37·9 miles) a maximum speed of 77·6 m.p.h. was reached, and this section was covered in 32 min.

2-10-0 Locomotives for Turkish State Railways

Beyer, Peacock & Co. Ltd. and Vulcan Foundry Limited deliver to Turkey an order for Class "1E" locomotives of pre-war German design

THE Turkish State Railways Administration placed a contract in this country in 1939 for a number of Class "1E" 2-10-0 steam locomotives, previous supply of which had been made by Henschel & Son of Kassel and Krupp of Essen. Unfortunately, this contract was interrupted by the war and it is only now that we are able to announce the delivery of these engines and record details of the design.

The locomotives have been built by Beyer, Peacock & Co. Ltd. and the Vulcan Foundry Limited, to the inspection of Robert W. Hunt Company, London, and principal dimensions are as follow:—

	Metric	English equivalent
Gauge	1,435 mm.	4 ft. 8½ in.
Cylinders, dia. × stroke	650 mm. × 660 mm.	25⅝ in. × 26 in.
Coupled wheels, dia.	1,450 mm.	4 ft. 9½ in.
Truck wheels, dia.	850 mm.	2 ft. 9½ in.
Tender wheels, dia.	1,000 mm.	3 ft. 3⅜ in.
Coal capacity	8 tons	7 tons 17 cwt.
Water capacity	29 cu. m.	6,380 gal.
Minimum radius of curve	150 m.	492 ft.
Working pressure	16 kg. per sq. cm.	228 lb. per sq. in.
Heating surface :—		
Tubes	223·5 sq. m.	2,406 sq. ft.
Firebox	15·7 ,,	169 ,,
Total evaporative	239·2 ,,	2,575 ,,
Superheater	84·2 ,,	908 ,,
Total	323·4 ,,	3,483 ,,
Grate area	4 sq. m.	43 sq. ft.
Tractive force at 85 per cent. boiler pressure	26,110 kg.	57,560 lb.
Weight of engine in working order	108·58 tonnes	106 tons 17 cwt. 3 qr.
Weight of tender in working order	62·92 tonnes	61 tons 18 cwt. 3 qr.
Total weight of engine and tender	171·50 tonnes	168 tons 16 cwt. 2 qr.

The large boiler has an empty weight of 31 tons and an overall length when complete with smokebox, of 38 ft. 5½ in. As is usual with the 2-10-0 wheel arrangement, there is a very long barrel, with 19 ft. 8¼ in. between tube plates. The firebox is the round-top type, with copper inner-box and copper water-space stays. The steel roof-stays have nuts on the inner side only, and both ends of the stays are drilled with tapered holes, so that the stay can be expanded by drifting, to provide a steam-tight joint without riveting. Cross stays are screwed into seatings and welded. All the solid drawn steel tubes are expanded into the tube plates and are beaded at the firebox end. That the front barrel is over 6 ft. in dia. and the centre line of the boiler is 10 ft. 2$\frac{7}{16}$ in. (3,100 mm.) above rail level, are an indication of the size of the boiler. The superheater is an unusual design and was supplied by the Superheater Co. Ltd. With forty-three elements 1½ in. dia. outside, it provides 908 sq. ft., and the header is cast in two parts, incorporating the saturated and superheater chambers respectively. These two castings are bolted together to interpose saturated and superheated seatings alternately, the element joints being made by copper asbestos joint-rings. The boiler has two domes, the after one containing the regulator and the other, the water purifier, in conjunction with the feed-water clack boxes.

The regulator is the Wagner type, in which the main valve is operated by steam pressure only and has no mechanical connection with the regulator gear. When the pilot valve has opened, the main valve is lifted by differential pressure and any movement upwards or downwards of the pilot valve causes corresponding movement of the main valve. Further movement is obtained by again operating the pilot valve. Thus, this valve can be operated with the minimum amount of physical effort and, subject to correct adjustment, it is sensitive to very close setting.

The water purifier, which is positioned in the front dome, is an arrangement of cascade trays, with the object of breaking the feed water into a fine spray and pre-heating it, to cause release of solids held in suspension, after which it is carried in a casing down each side of the boiler shell, where it is released at low level into the water in the boiler. A particular feature is the delivery from the clack boxes of the feed water through twin opposed nozzles, which discharge in a flat spray. The trays and wire filter can be removed through the dome opening. The wheel arrangement naturally lends itself to the extended smokebox with large dia. door, fastened by centre bolt and dogs; it is fitted with a diaphragm plate spark-arrester.

Provision is made for the blower to be used for lighting-up, by an auxiliary connection from the train-heating pipe. There is also a compressed-air dust blower connection on the smokebox side and a damping spray inside. The cast-iron chimney includes a separate chamber for the exhaust of the Riggenbach brake. The hopper-type ashpan has three bottom discharge doors operated from the cab and the front and back dampers are provided with spark screens. The firegrate has three sets of the conventional-type fixed firebar, with $\frac{5}{16}$ in. (14 mm.) air space and, in addition, a section made up in a steel frame, to form a drop grate operated from the cab.

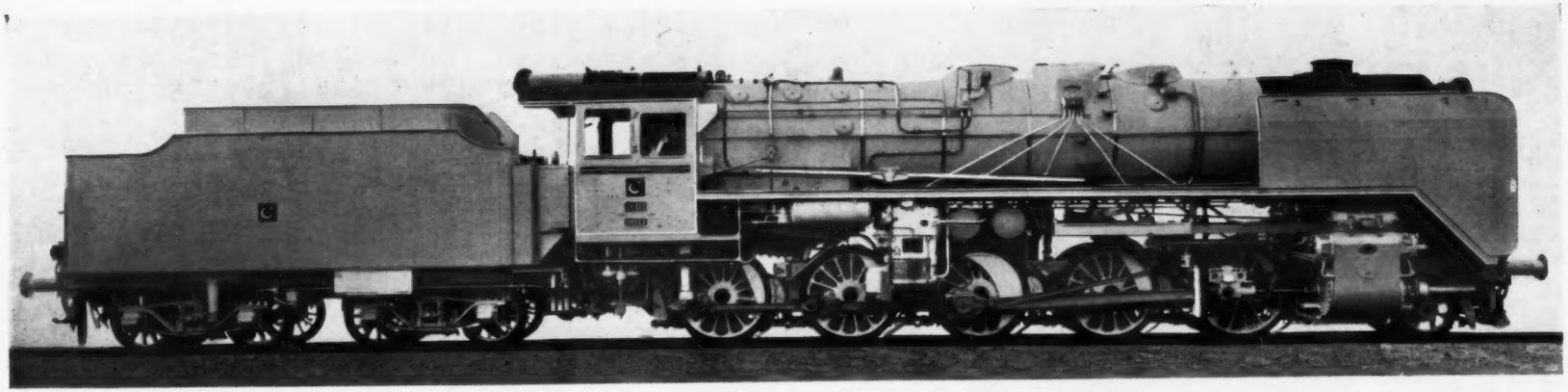
The boiler is fed through two top-feed clack boxes by one Davies & Metcalfe No. 11 exhaust injector, type "H," and one Davies & Metcalfe No. 11 live-steam injector, type "ASZ." The Everlasting blow-off cock at the front of the firebox, operated from the cab, is fitted with a silencer and there is a connection on the injector delivery pipe for the use of a fire extinguisher. The boiler is covered with mild-steel clothing plates and Alfol insulation is used on that portion of the firebox within the cab, and for the cylinders and main steam-pipes.

The main frames are of bar type, 3½ in. thick, machined from rolled-steel slabs, with a substantial cast-steel frame-stay between the cylinders, this surmounted by a smokebox saddle of welded construction. The frame is stayed by a series of plate stays until the firebox support is reached and in three positions along the barrel are located breather plates. The firebox is supported on sliding shoes at the front with typical arrangement of breathing plate at the back end. The coupled horn-blocks have the conventional-type of wedge adjustment and the frame gaps are rigidly held with double horn-stays, bolted flat on each side of the frame forks. The spring compensation is arranged in two groups on each side of the engine, the leading truck and first and second coupled being in one group, and the third, fourth, and fifth coupled in the other. The under-hung springs are arranged with adjustable spring-links and the springs are designed for cold assembly.

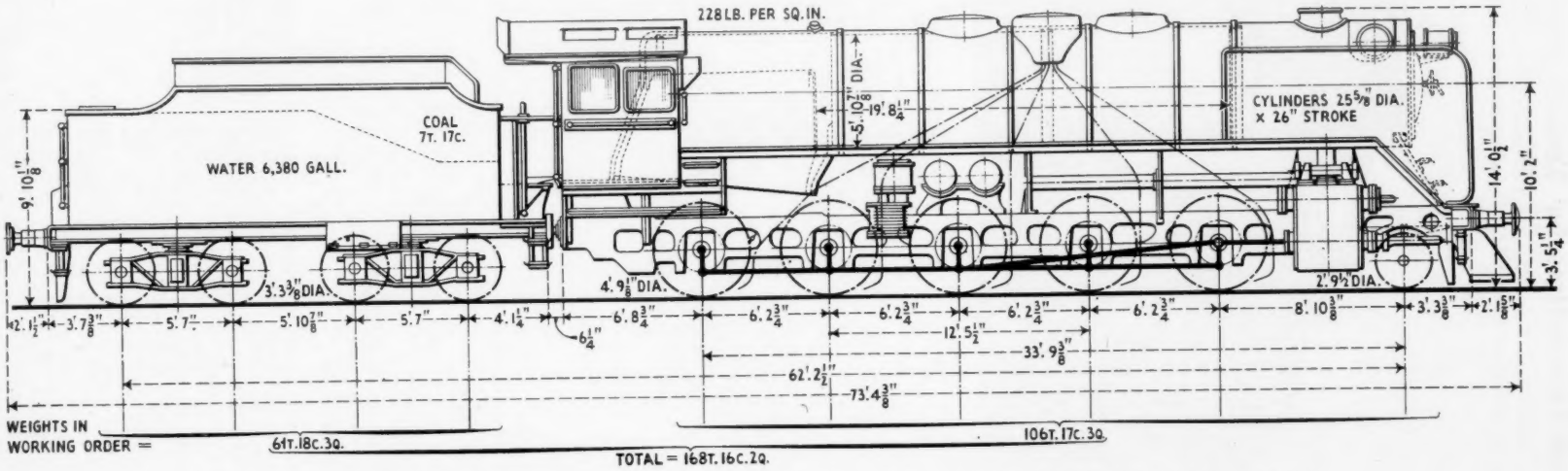
The forged-steel axleboxes have loose brasses lined with white metal and, on the driving axle, they are assembled with additional segments below the centre line provided with shims for vertical adjustment. The keeps are cast steel, and are protected by felt dust-shields on both ends; they are equipped with oil filters and contain Armstrong oilers, though lubrication to the crown of the box is also provided from an oil box on the frame. The leading and trailing axleboxes for this ten-coupled arrangement have to allow a lateral movement of 30 mm. each way.

The cast-steel wheel-centres have tyres of class "E" steel to B.S.S. No. 4, secured by retaining rings, and the crank pins are case-hardened 3 per cent. nickel steel. The cast-iron cylinders are secured to the

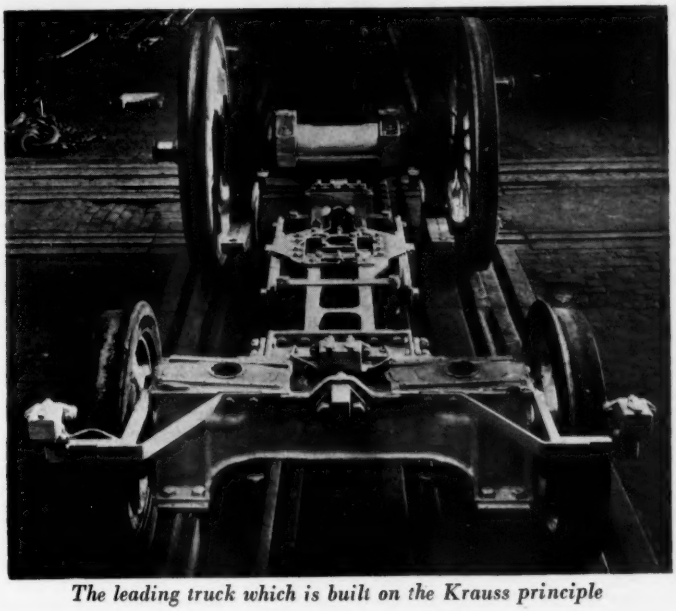
2-10-0 Locomotives for Turkish State Railways



General view of a Class "1E" 2-10-0 locomotive recently delivered to Turkey



2-10-0 locomotive built by Beyer, Peacock & Co. Ltd. and the Vulcan Foundry Limited to a pre-war German design



The leading truck which is built on the Krauss principle

frames by bolts, but also are keyed in position by fitting strips. Huhn type metallic-packing is fitted, supplied by the British Metallic Packings Company. Contrary to usual practice, the piston-valve liners are not pressed into the cylinder castings, but are held in position against shoulders by the separate exhaust box castings.

The forged steel pistons have three narrow rings and full-sized tail rods and complete metallic packing, bushes and cover for it. An additional feature is the arrangement for vertical adjustment in the tail rod guide, which is obtained by fitting the necessary shims. The tail rod is hollow bored to reduce weight. Piston valves of 11$\frac{13}{16}$ in. (300 mm.) are considered necessary for the 25$\frac{1}{2}$-in. dia. pistons and are a straightforward design with two cast-iron heads, each carrying four narrow rings. The large relief-valves are located on the cast-steel cylinder covers and the bye-pass valves on the top of the cylinders are air controlled.

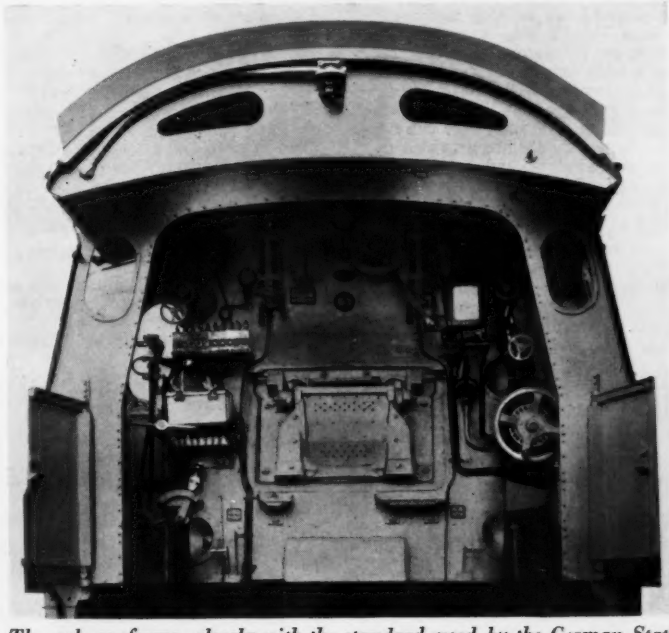
Both the coupling and connecting rods are of heavy fluted section of class "C" steel to B.S.S. No. 8. The connecting rod weighs 8 cwt. and is 12 ft. 5$\frac{3}{4}$ in. between centres; it is provided with adjustable brasses at each end. The locked gib for the small end wedge is particularly noticeable and of very robust design. Brass shims are provided at the joints between the brasses and are made with a toggle, which overlaps outside the joint; the coupling rods also are fitted with adjustable brasses, with locked cotter and plates. Special provision is made on the leading and trailing rods both at the knuckle pin and the crank pin to allow the lateral movements given to the leading and trailing wheels. These articulated joints are obtained by the use of spherical bushes. All rod bushes are of gunmetal with white metal lining and are lubricated by needle feeds, oil being fed on to felt pads fitted to the bearings. It is interesting to notice that two sizes of needles are provided for summer and winter use. The valve motion is the conventional Walschaerts type of heavy section, producing a valve travel in full gear of 7$\frac{1}{16}$ in.

The locomotives are fully fitted with Westinghouse brake equipment, including both the straight air and the automatic arrangement. The 7-in. cross compound compressor can be seen in the illustrations and two brake-cylinders are provided, operating through equalised and cross-equalised brake-rigging. The brake blocks are in two cast-iron sections, secured by a cotter to the cast-steel head. Special arrangements have to be made on the leading and trailing brake-hangars, for the introduction of articulated-type pins, to allow for side play of the leading and trailing wheels.

An interesting feature is the Riggenbach counter-pressure brake equipment, for operation on long down grades, with the engine in reverse gear. There have been many forms of counter-pressure brake introduced by Chatelier, Riggenbach, Krauss and others, but all have been designed to use the cylinders and valves of the locomotive to absorb energy of the engine and train's movement, by compressing air and water vapour and finally releasing it. In some cases, this brake has been automatically controlled by a governor in accordance with the speed attained, though this particular application has been confined to Swiss mountain railways.

Riggenbach Brake Equipment

In the case of these locomotives for Turkey, the equipment comprises a rotary slide-valve in the exhaust pipe under the smokebox, which closes the outlet into the smokebox and opens the port on the side to the atmosphere, and it is through this latter opening that air is drawn into the cylinders. The valve is operated by a small air cylinder controlled from the cab. The valve on the firebox back below the water line, delivers a spray into each exhaust box to mix with the incoming air and act as a cooling agent. After compression in the cylinders, the air is delivered back into the main steam-pipes and allowed to escape through a needle valve controlled from the cab, and positioned on the side of the smokebox. The air is exhausted through a separate passage on the back of the chimney. It must be remarked that application of the counter-pressure brake requires considerable attention and skill on the part of the engine crew and its use generally is associated with an application of the sanding gear, to avoid danger of counter revolution.



The cab conforms closely with the standard used by the German State Railway both in arrangement and mounting

A feature on the left-hand side of the cab is the mechanical lubricator and sight-feed indicator supplied by C. C. Wakefield & Co. Ltd.; it is driven from the left-hand trailing crank pin and has an entirely separate sight-feed indicator. The fourteen feeds are arranged to supply the piston valves, fed through the steam-chest liners, cylinder barrels, piston rods, piston

tail-rods and valve spindles. All these feeds are fitted with diaphragm-type Olva check valves, supplied by Davies & Metcalfe Limited. Ordinary oil-lubrication is provided for the rods, motion, and axleboxes.

The leading truck is built on the Krauss principle, in which the truck wheels are connected to the axle of the leading coupled-wheels by a steel frame with controlled side-movement. The rear end of this truck frame is connected to a casting mounted on the centre portion of the leading coupled axle; the weight is applied through bearing springs working in guides on the main frame, above the truck axle, with sliding shoes in the top of the axlebox.

A side movement of $1\frac{3}{16}$ in. (30 mm.) is allowed at the leading coupled-wheel end and $4\frac{15}{16}$ in. (125 mm.) is allowed at the truck, on each side of the central position. Both these movements are spring-controlled, with a pair of laminated springs at the centre pin and a coil spring at the forward end, built into the truck structure. The sub-frame is machined from steel slab and the truck axleboxes are cast steel with loose gunmetal bearings lined with white metal. The cast-steel axlebox keeps are provided with Armstrong oilers.

Cab and Mountings

The cab, both in its arrangement and mountings, conforms very closely with the standard used by the German State Railway. The full width of the loading gauge is used and due attention has been given to the comfort of the crew. The upholstered seats for the driver and fireman are mounted on spring-loaded brackets, which can be adjusted to the required height. The cab is constructed from steel plates and angles, and has a wooden roof covered on the outside with thin steel-sheets. A clerestory-type ventilator with adjustable openings is built into the cab roof on each side, and further ventilation is ensured by the pivoted cab windows in the weather board and sliding windows in the cab sides. Sun and weather shields are provided over the front cab window, and side windows are also fitted with hinged baffle windows on the outside. A sliding canvas curtain is provided to close the back of the cab.

Arrangement of the controls is well away to each side of the fire door and considering the number of acccessories which the locomotive carries, a simpler arrangement has been achieved than might be expected. The small regulator-handle is sufficient in the operation of the pressure-controlled Wagner regulator. Clyde soot-blowers are positioned on each side of the firebox and the whistle is mounted on the dome, operated from the cab, and with remote operation from the train. The air release valve for the Riggenbach counter-pressure brake is mounted on the smokebox, but has a control spindle to the cab. There is also a water valve on the firebox back for this pressure brake. Sprinkler valves are provided for the ash-pan and smokebox, as well as for coal watering.

There are the usual controls for the Westinghouse straight air brake and automatic brake, also air sanding valve, cylinder bye-pass operating valve and the Riggenbach air cylinder operating-valve.

The firedoor is the Marcotty type, with hollow cast-steel frame to admit heated air to the fire. The door, which combines the function of deflector plate, is made up of two steel plates riveted together through ferrules, which determine the wide air space between the two plates. The intakes into the air passages on each side of the main casting are controlled by steel flaps.

A pyrometer is provided and also Teloc speed indicator and recorder, the latter being driven from the right-hand trailing crank pin. Steam for train heating is taken from the valve on the top of the firebox. A small safety-valve is arranged in the pipe line and a two-way cut-out valve is provided at platform level, from which the heating pipes run to both the front and back hose connections on the buffer beams.

Stone's electric lighting equipment is fitted and includes a headlight mounted on the smokebox door, sidelights over the buffers, in addition to the usual cab and bunker lights. Especially robust fittings are provided on each side of the locomotive under the platform to illuminate rods and motion. Current is generated by a 24-V., 500-W. turbo-generator mounted on the side of the smokebox. A large sand-box is mounted on top of the boiler, between the domes, and it is fitted with a battery of five compressed-air sand-ejectors on each side, which deliver sand to the front of each coupled wheel.

Tender and Draw-Gear

The under frame is mounted on two four-wheel bogies of the diamond-frame type, with plain-bearing axleboxes bolted to the frame bars. The weight is carried by side bearers and is transmitted from the bolster to the bogie frame through elliptical springs. All wheels are braked from the Westinghouse cylinders, with similar blocks to those provided on the engine. A hand brake is provided with toggled operating handle. In the case of the locomotives built by Beyer, Peacock & Co. Ltd., the tank and bunker are of riveted construction, though for those being built by Vulcan Foundry Limited, welded construction has been used. Ample tool-boxes are fitted on the front and rear of the tender and also on the sides underneath the tank, the screw jacks being suspended on special brackets at the side, underneath the tender tanks.

The front buffer beam carries side buffers of conventional design and cow-catcher, and the draw-bars on both engine and tender are fitted with two volute springs, arranged in tandem with screw couplings and safety couplings. The intermediate draw-gear between engine and tender comprises a draw-bar, two safety links and intermediate side buffers.

The engines are finished in black above platform level, with polished brass cloth-ing bands; below platform level, the wheels and all parts other than the motion are painted crimson. In accordance with the wishes of the Turkish Railway Administration, the plate depicting the star and crescent is arranged so that the star is in the forward position on each side. The locomotives are being shipped in fully erected condition, and due to the fact that they are too large to pass through the British loading gauge, it is necessary to transport them from the works to Liverpool by road. This has been done by arrangement with Edward Box & Co. Ltd. on its special road-vehicle.

Plastic Interior for a Railway Dining Car

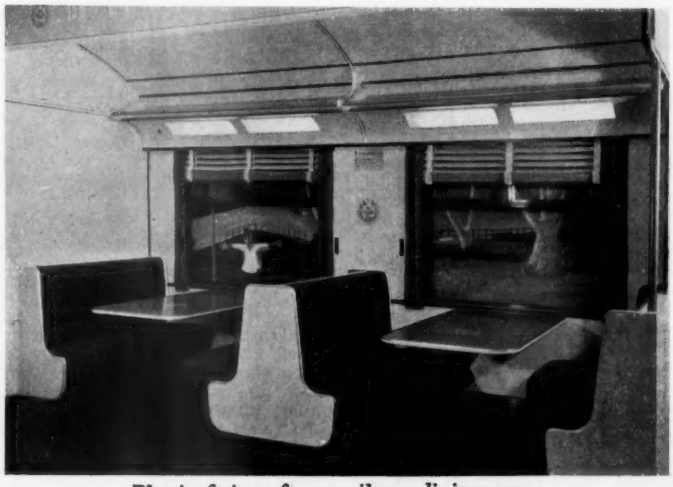
Shown at the British Industries Fair

AN exhibit in the Earls Court section of the B.I.F. was a full-size half-section of a railway dining car panelled in Formica. This decorative laminated plastic is made at the new factory of De La Rue Insulation Limited at Tynemouth, and can be supplied in a range of colours and finishes.

The tables are in a wood veneer Formica with a crest interlaminate printed in the surface of the material. They are proof from cigarette burns. For the penalty notice the same method of printing is used.

Skirtings and window cills, together with the jamb assemblies, are of Delaron plastic, the window cills themselves being finished with an insert of cigarette-proof Formica. Delaron is another De La Rue product, of which details were given in our June 6 issue last year. Another feature of the exhibit, shown in the photograph reproduced on the right, is the Venetian blinds with Traffolyte slats. The blinds are adjustable and the angle of the slats can also be moved. For cover mouldings Delaron has again been used, and use has been made, also, of an aluminium section in which the screws are concealed by a P.V.C. type of filler.

The exhibit was built by Hampton & Sons Ltd., to the design of Mr. S. P. Jordan, A.R.I.B.A., M.S.I.A., head of the design section of the De La Rue firm, assisted by Mr. W. J. Hardman, A.M.Inst.B.E.



Plastic fittings for a railway dining car

RAILWAY NEWS SECTION

PERSONAL

Hotels Executive

The Minister of Transport has announced that the following have accepted his invitation, made after consultation with the British Transport Commission, to become members of the Hotels Executive:—

Chairman: Lord Inman (as already announced).

Full-Time Member: Mr. F. G. Hole (Chief Hotels Superintendent, London Midland Region, British Railways).

Part-Time Members: Mrs. Ella Gasking (Chairman, Batchelor's Peas Limited); Sir Harry Methven (Chairman, National Service Hostels Corporation, and Fuller's Limited); Mr. Ernest W. Wimble (formerly Secretary & General Manager, Workers' Travel Association).

A portrait and biography of Lord Inman appeared in our February 20 issue.

Mr. David R. Lamb has been elected President of the Institute of Transport for the year commencing October 1, 1948. Mr. Lamb is Editor of *Modern Transport*, and is a Foundation Member of the Institute.

LONDON MIDLAND REGION

Mr. F. W. Abraham, Assistant Superintendent of Motive Power, London Midland Region, British Railways, has been appointed Motive Power Superintendent, in succession to Mr. H. Rudgard (now Chief Officer (Motive Power), Railway Executive).

Mr. I. C. Forsyth, Assistant Works Superintendent, Crewe Locomotive Works, has been appointed Works Manager at the same works.

Mr. J. R. Park, at present Director of Research & Development to the British Oxygen Co. Ltd., has been appointed to the board as an Assistant Managing Director.

NATIONAL COAL BOARD

The Ministry of Fuel & Power recently announced that Sir Charles Reid had resigned from the National Coal Board. Sir Geoffrey Vickers, V.C., Legal Adviser to the N.C.B., has been appointed a member of the Board.

The National Coal Board has appointed Sir Robert Burrows, who became a member of the Board on May 1, to be the Chairman of a committee which will take stock of the position reached in the development of the Board's organisation. Sir Mark Hodgson and Sir Charles Renold will be members of that committee. Sir Robert Burrows was formerly Chairman of Lancashire Associated Collieries Limited and Manchester Collieries Limited and was Chairman of the London Midland & Scottish Railway Company from 1946. Sir Mark Hodgson is General Secretary of the United Society of Boiler Makers & Iron & Steel Shipbuilders. Sir Charles Renold is Chairman of Renold & Coventry Chain Co. Ltd.

Mr. Francis George Hole, A.C.A., who has been appointed a Full-Time Member of the Hotels Executive under the British Transport Commission, is Chief Hotels Superintendent of the London Midland Region, British Railways. He was born on November 29, 1904, and was educated at King's College School, Wimbledon, where he took a senior entrance scholarship in classics, obtained the Oxford & Cambridge School Certificate, and passed the London Matriculation Examination (first division). He played for the School XV, shot in the Bisley VIII, set up three athletic records, and was senior prefect in his last year. Mr. Hole is a Chartered Accountant; he served his articles with Walter Meacock & Co., of London and Newport, Monmouthshire, and passed his final examination in 1929. Early in 1930 he took up an appointment as Senior Assistant with Thomson McLintock & Co., Chartered Accountants, with which firm in the course of the succeeding four and a half years he had valuable experience in many branches of accounting practice. In July, 1934, he was appointed Hotels Accountant to the London Midland & Scottish Railway. That appointment brought him into close contact with Mr. Arthur Towle, C.B.E., Controller of L.M.S.R. Hotel Services, with whom he worked very closely in the general administration of the business, particularly during the six or seven years preceding his appointment, on January 1, 1945, as successor to Mr. Towle, thus gaining detailed experience in the technical management of hotel and catering activities under Mr. Towle's guidance. Mr. Hole is a member of the Council of Management of the Hotels & Restaurants Association of Great Britain, and serves on the Executive Committee, the Scottish Committee, and the Staff Relations Committee of that Association. In 1946 he was appointed a member of the Licensed Residential and Licensed Restaurant Wages Board, and was subsequently elected Chairman of the Employers' Side. Mr. Hole is a member of the British Tourist & Holidays Board, and is Chairman of its Hotels Committee. He is also Chairman of the Railway Executive Hotels & Catering Committee. He is a member of the governing body of King's College School.

Mr. F. G. Hole

Appointed a Full-Time Member of the Hotels Executive, British Transport Commission

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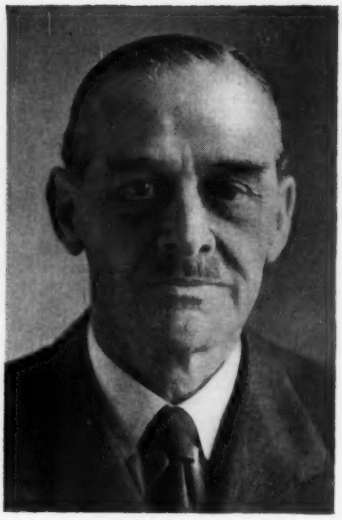
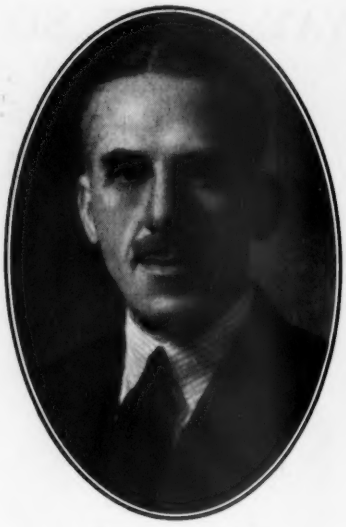
Dr. H. H. Cavendish Fuller, M.D., M.B., Ch.B., who, as recorded in our April 23 issue, has been appointed Chief Medical Consultant to the Railway Executive, was educated at Bishops Stortford College and at Edinburgh University, where he obtained his medical degrees, afterwards undertaking institutional work in Edinburgh and London. On the outbreak of war in 1914 he was attached to the Royal West Kent Regiment, and served in France with the rank of Captain. In 1916 he was invalided home, and later was appointed Officer-in-Charge of the Princess Marie Louise Military Hospital at Bermondsey. Returning to civilian life, he became Medical Officer of Malvern College in 1917, and subsequently also engaged in private practice at Malvern. He was Honorary Consulting Surgeon to the Great Malvern Hospital, and Medical Referee to the Ministry of Pensions for the Malvern area. Dr. Fuller took up the appointment of Assistant Chief Medical Officer to the Great Western Railway at its Paddington headquarters in 1930, and became Chief Medical Officer in 1931. During the recent war he was at Paddington in medical charge of first aid, and was also Medical Officer of the Great Western Railway Zone, to the 38th London Battalion, Home Guard, and to the Kensington Sea Cadets. In addition to his railway work he held the appointments of Medical Officer, Channel Islands Airways; Chief Clinical Assistant, National Hospital for Diseases of the Heart; and Clinical Assistant, British Red Cross Clinic for Rheumatism, Peto Place. Dr. Fuller will continue as Chief Medical Officer to the Western Region while acting as Consultant to the Railway Executive.

Mr. Alfred Bond, Assistant to the Commercial Superintendent, Western Region, British Railways, at Paddington, who has retired, has served directly under eight Chief Goods Managers and one Commercial Superintendent (the Chief Goods Manager's new title), and has held responsible executive positions under five of



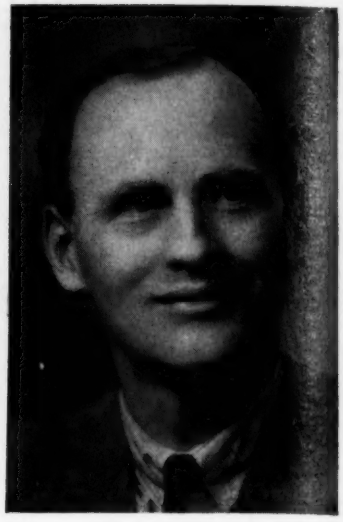
Dr. H. H. Cavendish Fuller

Appointed Chief Medical Consultant to the Railway Executive



Mr. Alfred Bond

Assistant to Commercial Superintendent, Western Region, British Railways, who has retired



Mr. J. H. Jellett

Appointed Docks Engineer, Southern Region, British Railways

them. His career has been largely concerned with Goods Department new works matters, including mechanical equipment at stations, and he played an important part in the reconstruction of Paddington, Bristol (Temple Meads), Birmingham (Hockley) and many other large goods stations. Mr. Bond was born in 1883, and entered G.W.R. service in 1899. From 1916 to 1919 he served with the B.E.F. and had charge of railway transportation depots in France. After his return to the G.W.R. he formed No. 4 Railway Operating Company, R.E. (Supplementary Reserve), which he commanded until its disbandment. During the recent war he formed and commanded a platoon of the Home Guard at evacuation headquarters, having, in 1939, arranged the evacuation of most of the headquarters staff of the Chief Goods Manager's Office to emergency headquarters near Newbury; he remained there in charge throughout the war, eventually organising the staff's return to Paddington. Mr. Bond was appointed Chief Clerk to the Chief Goods Manager in June, 1938, to whom, in August, 1939, he became Indoor Assistant. He was promoted to be Assistant to the Chief Goods Manager in 1946.

Mr. John Holmes Jellett, O.B.E., M.A., M.I.C.E., M.Inst.T., who, as recorded in our April 30 issue, has been appointed Docks Engineer, Southern Region, British Railways, was born on April 20, 1905, the son of Mr. H. H. Jellett, sometime Chief Engineer, Bengal-Nagpur Railway. Mr. J. H. Jellett was educated at Shrewsbury School and at Gonville & Caius College, Cambridge, where he graduated in Mechanical Sciences (first class) in 1927. After serving for some years with the firms of Rendel, Palmer & Tritton, and Sir Robert Elliott Cooper & Son, he entered the Department of the Civil Engineer-in-Chief, Admiralty, as Assistant Civil Engineer, in 1933. He was Assistant Civil Engineer at Chatham Dockyard from 1933-35, and in 1935 went in the same capacity to Singapore, where he was later promoted Civil Engineer. He served from 1938-39 as Civil Engineer at the Admiralty, and from 1939-40 as Officer-in-Charge of Admiralty Works in the Milford Haven district. Mr. Jellett then held for some four years the post of Superintending Civil Engineer, first at the Admiralty (Bath), later for the Eastern Mediterranean, and then in Malta. In 1944 he was commissioned as Temporary Captain, R.N.V.R. (Special), and was concerned in the construction of the Mulberry harbour at Arromanches; he was made an O.B.E. in that year. Later he served in Italy as officer in charge of arrangements for the recruiting of Italian building and civil engineering workers for service in the Far East, and from October, 1945, to February, 1946, was Superintending Civil Engineer, Chatham Dockyard. Mr. Jellett joined the Southern Railway as Deputy Docks Engineer in March, 1946.

Mr. N. R. Crump has been elected President, and Mr. D. S. Thomson, Vice-President, of the Quebec Central Railway Company and the Quebec Central Transportation Company.

Mr. W. J. Sawkins, retiring Chief Accountant, Southern Region, speaking during the recent presentation ceremony (see accompanying paragraph). Left to right: Sir Eustace Missenden, Chairman, Railway Executive; and Messrs. O. V. Bulleid, Chief Mechanical Engineer, S. B. Warder, Electrical Engineer, T. E. Chrimes, Superintendent of Motive Power, W. J. Sawkins, and John Elliot, Chief Regional Officer, Southern Region

Presentation to Mr. W. J. Sawkins

At a recent ceremony at the Southern Region headquarters at Waterloo Mr. W. J. Sawkins, who has just retired from the position of Chief Accountant, received a presentation from fellow officers of the system, past and present. Mr. John Elliot, Chief Regional Officer, spoke of Mr. Sawkins' sterling worth to the railway, and said how glad he was that Sir Eustace Missenden, Chairman of the Railway Executive, was able to be present. Sir Eustace Missenden referred to the valuable services of Mr. Sawkins from the time when, as Secretary & Accountant of the Isle of Wight Central Railway, he had joined the Southern Railway; and tributes to a popular colleague were also paid on behalf of the many officers present by Mr. A. D. Cook, Treasurer; Mr. J. H. Laundy, Audit Accountant; and Mr. F. R. Stockdill, the present Southern Region Accountant. Mr. R. G. Davidson, Mr. Sawkins' predecessor as Chief Accountant, voiced the good wishes of the retired officers. The gift, consisting of a cheque towards a television set, was acknowledged by Mr. Sawkins in a speech in which he referred to his many pleasant associations with his fellow officers.

New Refreshment Room at Newhaven Harbour

A room on the boat train platform at Newhaven Harbour, Southern Region, has just been reconditioned, after a varied wartime career, as a modern refreshment room. It has been designed not only to give a favourable impression of British catering facilities to travellers arriving from the Continent, but also to meet the unusually exacting demands made on a harbour buffet. Although much of the traffic through a cross-Channel port proceeds direct between train and steamer, provision must be made for those travelling to the harbour by road, who have to bring their cars to the quayside some hours before the time of sailing. At Newhaven in particular, also, there is a considerable cross-country rail traffic not using the London boat-trains but proceeding east and west along the coast.

The new refreshment room, which was opened on May 13, to coincide with the restoration as from the previous Sunday of a daily service on the Newhaven-Dieppe route, is decorated in a pleasing modern style, giving an atmosphere of spaciousness. A bar counter, with up-to-date fittings, is provided for the service of refreshments, while the room itself will seat some 60 travellers at sit-down meals served from the kitchen. New doorways with vestibules give access to the room and exclude draughts, and the old lofty ceilings have been lowered by 12 ft. A cream and green colour scheme is adopted for the walls, which are enlivened also by a series of colourful mural prints.

At the opening ceremony on May 13, Captain R. L. Jolliffe, Chairman & Managing Director of Bertram & Co. Ltd., the caterer, said that the room was an example of the type of facilities which the Southern Railway had begun and British Railways were carrying on. He was sure that people coming from the Continent would think they had never seen a refreshment room as good as this one anywhere else in the country. A great deal of that was due to the exertions of the Southern Railway, and they had to thank Mr. John Elliott, Mr. R. P. Biddle, Mr. E. W. Belcher, and Mr. R. J. Cardy. They also welcomed Mr. E. K. Portman-Dixon, representing the Railway Executive, and much appreciated the efforts being made by the Executive to improve facilities here and throughout the system.

Mr. R. J. Cardy, Divisional Marine Manager & Harbour Master, Newhaven, recalled that the Southern Railway had been told to restore a service to France *via* Newhaven-Dieppe in 1944, both ports, although bombed, being workable. They opened the service on January 15, 1945, six months before V.E. Day, since when they had striven to restore and improve on pre-war standards.

This room, in wartime, began as a Movements Control mess and a recreation room, and then became a billet when the 1st Cheshires were in charge of the beach defences. Later, it was a Naval N.A.A.F.I., and after being relinquished, there were lengthy negotiations before it could be reconditioned. They had done some big jobs already with the British public, feeding 700 people on one occasion. He hesitated to say how many evacuees from Europe were fed there in the early days of the war.

Mr. E. W. Belcher, Hotels & Catering Superintendent, Southern Region, said that they were the gateway to England as far as tourist traffic was concerned, and were alive to the fact that tourists should have a reasonable welcome to this country when they arrived. One of the major desires of the Railway Executive was to improve the amenities for passengers on the ships and railways, and this room reresented a step forward in that direction. They would be able to provide breakfast in the morning and a sit-down meal at mid-day served by waiters and waitresses —something rather different from the cup of tea and a bun standing up at a counter to which the Englishman was accustomed. Now, after nationalisation, they intended to go on making the Southern Region the best railway in this country.

Mr. E. K. Portman-Dixon, Acting Executive Officer (Refreshment Rooms & Dining Car & Hotel Liaison), Railway Executive, said that the Executive had, as a main plan, the improvement of refreshment rooms on British Railways. It was very encouraging to come down and see at Newhaven something new and a definite improvement. Although the room had been begun by the Southern Railway, it was in line with what the Railway Executive had in mind for the railways in general. Those responsible were to be congratulated for having completed the room in time for its opening that day.

Mr. G. L. R. Lapierre, Chairman of the Newhaven Urban District Council, said that this was an auspicious occasion which marked the resumption of more nearly normal facilities at Newhaven. He looked forward to seeing the importance of the harbour increased both for passenger and cargo traffic.

Traders' Traffic Conference, Southampton Meeting

As reported briefly last week, members of the Traders' Traffic Conference visited Southampton for their annual conference, under the chairmanship of Mr. H. R. Caulfield-Giles, on May 10 and 11.

On May 11, the party made a motor-coach tour of the docks at Southampton as guests of the Railway Executive, Southern Region, and, at the invitation of Mr. R. P. Biddle, Docks & Marine Manager, were entertained to lunch on board the cross-Channel steamer ss. *Falaise*. Mr. Biddle proposed the toast of the conference, to which responses were made by Mr. Caulfield-Giles and Captain W. V. J. Clarke, of the Southampton & Isle of Wight Steam Packet Company. After lunch, a cruise in Southampton Water was made on board the tender *Calshot*, which proceeded into the Solent as far as Ryde.

The conference dinner was held at the Polygon Hotel, Southampton, in the evening of May 11, when Mr. H. Currington, of the Sheepbridge Coal & Iron Co. Ltd., Vice-Chairman of the conference, proposed the toast of British Railways, Southern Region. Mr. R. P. Biddle, in reply, spoke of developments at Southampton since the docks were acquired by the London & South Western Railway in 1892. Despite the fact that the port had been battered by enemy action in the recent war, 60 per cent. of its warehouses having been destroyed, it handled last year 80 and 100 per cent. respectively of its pre-war cargo and passenger traffic. Plans were in hand for new warehouses, transit sheds, factories and distributing depots, a new cold store, and an ocean terminal that would be the finest of its kind in the world; but progress was being hampered by shortage of labour and materials.

Mr. H. R. Caulfield-Giles proposed the toast of "Our Guests," and Mr. J. Irving, a Director of Marwood & Robertson Limited responded. The party was entertained during the dinner by Mr. Clarence Tomlinson, tenor.

Thanks were accorded to a sub-committee of the conference which had prepared the arrangements, consisting of Messrs. W. R. Clark-Lewis, H. Hodson, and J. A. Powell.

PAKISTAN RAIL ORDERS FOR UNITED STATES.—Reuters reports from Karachi the announcement by the Pakistan Minister for Industries on May 13 that the Pakistan Government has placed orders for 400 tons of rails in the United States.

RAILWAY WOMEN'S FIRST AID COMPETITION.—The St. John Ambulance Association has agreed to hold, for the first time, an inter-railway women's competition on the same lines as the contest which is run for men. This year a team from each of the former group railways and one from London Transport will compete. Prizes will be awarded to all the teams taking part, and the winning team will hold for the year a trophy which has been presented by Sir Robert Burrows, who was Chairman of the London Midland & Scottish Railway Company. The contest will be held in June.

MACROME TOOL PRICES REDUCED.—In response to the appeal by Sir Stafford Cripps, the current prices of a number of standard and special high-speed steel tools made by Macrome Limited, Wolverhampton, are to be reduced by bringing down the existing 7½ per cent. plusage to 2½ per cent. In addition to the above tools, which include milling centres, reamers, slitting saws, twist and centre drills, etc., prices of carbon steel twist drills are to be reduced by a 5 per cent. discount. These reductions will affect 90 per cent. of the cutting tools made by this firm.

NUMBER SPOTTING BANNED AT TAMWORTH, L.M.R.—The intensive activities of boys collecting engine numbers at Tamworth, L.M.R., led to a ban on the practice being imposed last week. Mr. J. B. Dunkley, District Passenger Manager, Birmingham, explained to a Press conference that sallies of small boys between the two levels at the station (where the Derby—Bristol main line crosses that from Euston to the North) became an almost continuous process on days of heavy traffic. At weekends during the summer, upwards of 200 boys have assembled, coming from places as far distant as Worcester, Bristol, and Swansea. The L.M.R. had no desire to interfere with legitimate interest in railway operation, but an increase in irresponsibility among the spotters had led to damage to railway property and danger to the boys themselves.

BRUCE PEEBLES & CO. LTD.—The company's report for the year ended December 31, 1947, shows a profit of £44,239, after providing for taxation and transferring £20,000 to depreciation reserve. To this is added £35,000 as a balance from previous provisions for taxation which are no longer required, giving a total of £79,239. After allocating £35,000 to research and development reserve, and £25,000 to general reserve, there remains £19,239 available for distribution. The directors recommend a total dividend of 10 per cent. on the preference stock, and a dividend of 5 per cent., together with a bonus of 5 per cent., on the ordinary stock. These dividends will take £12,587, leaving a balance of £6,652, to which is added £18,095 brought forward from last year, giving a total of £24,747 to be carried forward.

Ministry of Transport Accident Report

Motspur Park, Southern Railway: November 6, 1947

Lt.-Colonel G. R. S. Wilson inquired into the accident which occurred in dense fog at about 5.50 p.m. on November 6, 1947, at Motspur Park on the Southern Railway, when the 4.45 p.m. electric train, Holmwood to Waterloo, passed the up main outer home signal at "danger," having received a false green hand signal there, and collided with the second coach of the 5.16 p.m. electric train, Waterloo to Chessington, as it was crossing its path at the junction under clear signals. The full force of the impact was taken by the next coach, which, with the leading coach of the colliding train, was overturned. The two leading coaches of the Chessington train broke away and ran along the down branch for 87 yd.

The combined speed of the trains was considered to have been not less than 30 m.p.h. Both trains consisted of two four-coach suburban sets well loaded. Four passengers were killed, including a motorman travelling on duty, all in the leading coach of the train to Waterloo. Eight passengers were detained in hospital, four being discharged within a week, and 92 others complained of injury or shock.

The report draws special attention to the fatally injured motorman, who, regardless of himself and without mentioning the injuries to which he shortly succumbed, spoke reassuringly to passengers in the wrecked and overturned compartment and helped them to climb out through the door above them.

The injuries received by the motorman of the train to Waterloo prevented him from being interviewed for seven weeks. Rescue work was quickly taken in hand, but the fog prevented ambulances from arriving until 6.45 p.m. Absence of a road nearby necessitated the injured being carried some distance, but all except one were on their way to hospital by 7.20 p.m. Clearance work was not difficult, but was slowed by the fog. Normal working was resumed in 19 hr.

There had been fog all day, with fog posts manned from 7.30 a.m. Visibility at midday was about 200 yd., but it deteriorated gradually until at the time of the collision it was a few yards only in the darkness.

The accompanying diagram shows the lines, signals, etc., essential to an understanding of the principal features of the case.

Manual block working is in force, with the junction points operated electrically from Motspur Park signal box, and local track circuiting. The signalman there is authorised to accept a train in fog up to his outer home signal from Worcester Park when the junction is occupied, provided such train is booked to stop at that station and the fogmen are on duty—as was the case at the time of the accident—at the distant signals and the outer home signal.

No signal shown on the diagram has an electric fogman's repeater. The arm of the outer home is 25 ft. above rail level.

The Course of Events

The signalman at Motspur Park accepted the down train to Chessington, running 12 min. late, at 5.39 p.m., and immediately after that the up train to Waterloo. Receiving "entering section" for the former at 5.41 p.m., he judged there would be time for it to clear the junction before the other train, running 23 min. late, would arrive at the outer home. He therefore set the junction towards Chessington and cleared his signals. (The outer home was proved at "danger" by the act of accepting the up train.)

The down train did not leave until 5.47 p.m., a minute after "entering section" was received for the up train, which passed the outer home at "danger" on a false green hand signal. The first indication of anything wrong was the flickering and then steady lighting of the junction track circuit indicating lights, and shortly after a message came from the fogman at the junction directing signals that a collision had taken place.

All lines were blocked by it, and block communication to Tolworth, on the branch, was severed. An up branch train was stopped by telephone message at Malden Manor, the next station on the branch, but not a block post.

The motorman of the down train coasted towards the directing signals and had practically stopped when he received a green hand signal and then saw the light of the branch directing signal, on which he moved the controller to "series" to carry him over the junction. He thought all six contactors had operated to full series when he shut off, to coast again, just before the collision.

The motorman of the up train had a thorough knowledge of the route. Fog, he said, became very thick after Leatherhead. He observed both inner and outer and distant signals for Motspur Park to be against him and received a correct yellow hand signal on leaving Worcester Park. He had not attained more than 10 m.p.h., switching on and off as far as the shunting notch, when he saw the outer home fogman displaying a green light, but did not see the signal itself. No detonator was exploded. He continued forward cautiously and the collision took him by surprise. He never saw the lights of the other train in his path.

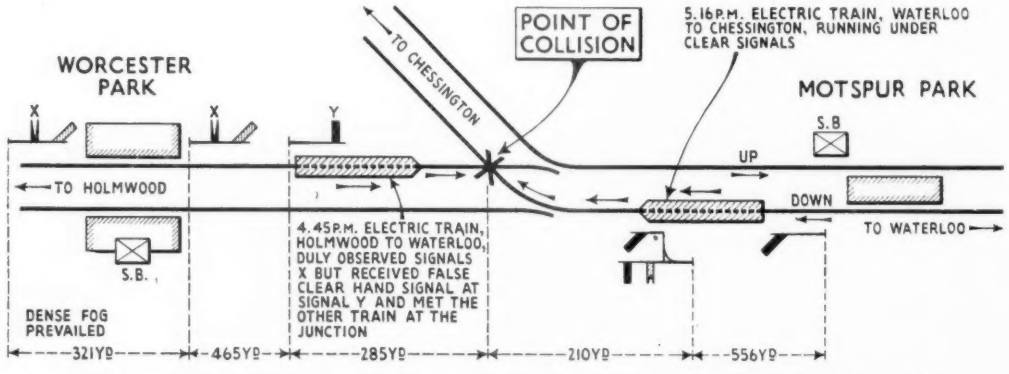
The fogman at the outer home was a sub-ganger of 35, with 11 years' service on the permanent way staff interrupted by 4½ years with railway construction units during the war. He had acted regularly as fogman since November, 1946, but this was the first occasion in 1947 on which he had been on fog duty all day.

He did not deny that he showed a green light to the up train, having, as he thought, *heard* the signal arm move to "clear," and did not hesitate to accept responsibility for the collision, but his account of his actions was difficult to follow and not borne out by other witnesses. He booked on duty at 7.30 a.m. and was relieved for a meal from 11.30 a.m. to noon by another sub-ganger, acting as relief man for several fog posts; and again at approximately 4.30 p.m. for tea.

He said that he took over again about 5 p.m., just after an up engine and brake passed from Worcester Park, maintaining a detonator in place and having his lamp at red. The next train was the 4.38 p.m. from Effingham, and he "distinctly heard" the signal cleared for it, removed the detonator, and showed a green light. Afterwards he heard the arm return to "danger," replaced the detonator, and returned his lamp to red.

Some time after he was "distinctly under the impression" that he heard the arm again move to clear and walked up to the post. The fog was so dense that he could not see what indication was displayed. In spite of that he went back, removed the detonator, and showed a green light to the train.

The motorman of the train from Effingham, however, was quite sure that he was stopped by a detonator and red light at the outer home, and the sub-ganger who was relieving the fogman well recollected stopping it and conversing with the motorman. It was not quite dark and he was just able to see the signal arm. It appears therefore that the fogman's statement that he signalled this train was incorrect and



Signal and track layout at the scene of the Motspur Park accident on November 6, 1947

that he must have arrived back at his post after 5.18 p.m., considerably later than he stated, also that the train involved in the collision was the first to pass his post after he did so. It was thus the first one he signalled after it became dark.

The printed fog-signalling instructions, dated November, 1945, are definite that reliance must not be placed on the sound of a signal arm moving, and the following is the relevant extract:—

"Fogsignalmen must be careful not to remove the detonator from the rail until they have made quite sure that the signal is in the clear position and not allow themselves to be guided by the sound of an arm moving, or the movement of a balance weight."

Rule 92 (*c*) also reads:—

"When the fixed signal for which he is fogsignalling cannot be seen by the fogsignalman, he must, unless he can satisfy himself to the contrary, assume that it is at 'danger' or 'caution' in the case of a distant signal."

The fogman was examined and passed in fogsignalling instructions and rules in September, 1946, and in May, 1947, by an area inspector and permanent way inspector. Although it is not laid down in writing that a fogsignalman may have to climb the ladder to satisfy himself as to the position of an arm, it was stated that it was always the practice to lay stress on this point during the course of an examination, and this had been done in this instance.

The fogman himself confirmed that, so far as he could recollect, it had been explained to him that if he could not see the arm from the ground he should "get up the post and see," but he stated that it did not occur to him to do so on this occasion and that he was relying on the sound. He referred to the awkwardness of climbing a ladder in the dark, but another man, 63 years of age, fogman at the outer distant, seemed to think little of it and recognised it to be his duty if he could not otherwise see the position of the signal.

Inspecting Officer's Conclusion

Colonel Wilson is satisfied that there was no last-minute change of mind on the signalman's part as to the priority of the two trains which might have led to the clearing and replacement of the outer home before the train to Waterloo arrived; and attaches no responsibility to him or either of the motormen.

He concludes that the outer home was not cleared at any time for the up train and that the collision was brought about by a mistake on the part of the fogman at that signal, resulting from disregard of instructions and rules, as he admitted.

It is immaterial what sound he mistook for movement of the arm. Reliance on sound, notoriously misleading in fog, is prohibited. It was his duty *to make quite sure* that the signal was clear, and he could do so only by going up the ladder, as instructed verbally in the course of his examination. To his credit, he made no attempt to deny or excuse his failure, but it was none the less of a serious nature, arising seemingly from an undeveloped sense of responsibility.

Colonel Wilson finds it difficult to suggest any other reason than laziness for his casual attention to simple but important duties. He was not working under any pressure of traffic. Although it was more than 10 hr. since he booked on duty, the time is not considered excessive, in view of the adequate arrangements for periodical relief. His record shows him to have been a keen and hard worker in his gang, but he was stated to be forgetful.

A break-down crane removing one of the wrecked coaches after the accident at Motspur Park on November 6, 1947

Remarks

This collision was due to failure of the human element under circumstances admitting of no excuse, but the question arises whether an electrical or mechanical repeater should be provided at the outer home, as recommended by the coroner's jury. Colonel Wilson received several letters on the point, as did the railway, from members of the public. General Southern Railway practice had been to install repeaters where arms are more than 25 ft. above rail, and on the merits of individual cases—for instance, where there is a more or less complicated group of signals on one post or gantry, or where a fogman would have to cross a line of rails to get a close view of a signal; or again, where a repeater has been asked for specially by the men concerned. Traffic density is also considered.

There were no special features to support the provision of a repeater in this particular case, and the fog, which obscured the view of the arm or light from the ground after dark, was of exceptional density such as may occur only a few times a year.

The fact remains, however, that in all probability the accident would not have occurred if the outer home arm had been repeated on the ground; and in view of its importance as immediately protecting the junction, Colonel Wilson thinks the matter should receive consideration; also, more generally, whether the limit of 25 ft. might with advantage be lowered.

Automatic train control at the stop signal would have prevented the collision, also probably a co-acting detonator placer, as the motorman knew exactly where he was and was approaching the signal with due caution.

The line would not rank high in priority for the installation of colour-light signalling.

BUREAU OF NON-FERROUS METALS.—Formed jointly by the British Overseas Mining Association, the British Non-Ferrous Smelter's Association, and the British Non-Ferrous Metals Federation, the British Bureau of Non-Ferrous Metal Statistics has been established to collect and publish comprehensive statistics relating to the production, consumption, and stocks of these metals in the United Kingdom and throughout the British Empire. The bureau, which has offices at 132, Hagley Road, Birmingham, has the support of the Board of Trade and the Ministry of Supply and of the principal Empire producers and consumers.

PNEUMATIC TOOL WORKS DEVELOPMENT.—A new factory is to be built at Frankfort, U.S.A., by the Chicago Pneumatic Tool Company, and should be completed by March, 1949. The works will cover an area of about 500,000 sq. ft. and will employ 2,000 workpeople. The present concern, which operates in many parts of the world, was started in Chicago in 1901 by the merger of the Chicago Pneumatic Tool Company, Boyer Machine Company, Franklin Air Compressor Company, the Chisholm Moore Company, and the New Taite-Howard Pneumatic Tool Company, London, now known as the Consolidated Pneumatic Tool Co. Ltd., of 232, Dawes Road, London, S.W.6. At the present time, the organisation has factories in the United States, Canada, Scotland, South Africa, and Australia and employs 5,000 persons.

RUBBER SOLEPLATES DEVELOPED BY FRENCH NATIONAL RAILWAYS.—Details have been issued by the French National Railways, for the information of any other systems that may be interested, of a series of tests just concluded with a special type of rubber soleplate for use with concrete sleepers. It has been found that thin sheets of plain rubber do not possess the elastic qualities necessary for absorbing shocks under heavy loads. In the type now developed, the surface is moulded in such a way as to allow expansion of the rubber, and to utilise to some extent its elasticity to shearing forces, in addition to simple compression. In a typical specimen, the upper and lower surfaces of the soleplate are formed with channels of varying depth and spacing, which allow the desired degree of elasticity to be obtained in a soleplate of reasonable overall thickness.

Canadian Pacific Railway Company

The annual general meeting of the Canadian Pacific Railway Company was held recently in Montreal, Mr. W. A. Mather, President of the company, presiding.

The President, in moving the adoption of the report, said that contrary to some expectations, industry during the year maintained an unprecedented level of activity. The resulting volume of railway traffic exceeded that of any previous peacetime year. Railway earnings also reflected the higher tolls collected on international and related traffic as a result of the authorised application to such traffic in Canada of increases in freight rates granted in the United States. These factors, together with reduced fixed charges and improved other income, served to mitigate to some extent a situation created by the disparity between Canadian freight rates and the increased costs of railway operations.

The changes in the ratio of net to gross earnings were striking. In 1947 gross railway earnings were more than double, while net railway earnings were less than one-half those of 30 years ago. In 1946 and 1947, 7 per cent. only of gross railway earnings was left after meeting expenses. This represents but one-third of that left in normal years.

Rising labour and material costs during and since the 1939-45 war, with freight rates at the level of 25 years ago or lower, resulted in those earnings being inadequate to meet requirements. At $22,892,189 they were less than the fixed charges of 15 years ago. Had it not been for the reduction in fixed charges and the improvement in other income the declaration of dividends in 1947 would not have been warranted.

In the first quarter of the current year gross earnings were $6,210,268 greater than in the same period of 1947. This in part was due to the higher rates applying to international and related traffic affected by increases in United States rates. Another factor was that in the same period last year freight traffic volume was reduced by widespread severe weather conditions.

Expenses rose as rapidly as earnings and a net result of $1,335,485 for that quarter was virtually the same as a year ago. Locomotive fuel cost an average of 85 cents a ton more, adding $1,250,000 to expenses, and the prices of many other materials were higher. These and some wage adjustments made during 1947 absorbed the benefit of improved gross earnings.

In 1947, permanent way maintenance was again below normal and it was necessary to add $2,400,000 to the maintenance fund. For some years their requirements for new rail had been about 750 track miles per annum. Their requests for new rail, however, had been limited by the effect of a general shortage of steel due to the war, and more recently by exports to assist world recovery. In 1944 their company laid 637, in 1945, 609, and in 1946, 511 track-miles of rail. In 1947 only 382 miles were laid and in 1948 their programme would be limited to about 400 miles.

The level of equipment repairs was somewhat better. Though rolling stock was in great demand throughout the year, and some difficulty was experienced in securing materials, no deterioration in upkeep resulted. It was possible, as the situation was now seen, that some progress in overtaking deferred maintenance would be made in 1948.

On March 30, 1948, the Board of Transport Commissioners for Canada rendered its decision in the long-standing application of the Railway Association for a 30 per cent. increase in freight rates. The railways were not granted the full increase, but were allowed, with certain exceptions, a general advance of 21 per cent. These increased rates became effective on April 8.

Acting under directives contained in a recent Order in Council, the general freight rate structure of the Dominion was to be reviewed by the Board of Transport Commissioners. Twenty years had elapsed since this structure was last reviewed and their company welcomed the investigation of this complex problem which was now under way. It would enter on the inquiry with an earnest desire to remove any legitimate basis of complaint against the structure of freight rates, and would, so far as it was able, expedite the preparation of the necessary data on which the inquiry must proceed.

In 1947 the average revenue per ton-mile of freight handled by their company was 0·95 cents, and had the latest increases been applicable in that year the revenue per ton-mile would have been about 1·12 cents as compared with 1·19 cents in 1921, the corresponding post-war period of the first world war. Even with the new rates in effect the level of freight charges in Canada remained lower than in any other country in the world. The 21 per cent. increase in Canadian rates was not applicable to grain and grain products within Western Canada whether for domestic consumption or for export. If this very important class of traffic were taken into account, the increase was only 16 per cent.

Wage negotiations reports had been received from the two boards of conciliation established to consider applications of different groups of organised railway employees for a wage increase of 35 cents per hour. In both these reports a majority of the members recommend an increase of 7 cents per hour applied to all groups of employees. At the present level of employment this would represent an increase in expenses of $13,470,000 per annum.

The minority report in both cases recommended an increase of 20 cents per hour. While their directors and officers were keenly aware of the grave difficulties that might present themselves in securing an adequate increase in earnings to offset such an increase in expenses, they had judged it necessary in the best interests of the country to indicate their willingness to implement the recommendation of the majority.

Dealing with the necessity of increasing the capacity of the railways to match the expanding industrial output of Canada, the President said that the directors had approved additional capital appropriations of $36,390,854. They were being asked at this meeting to approve these and additional capital expenditures amounting to $43,280,017. Of the grand total of $79,670,871, the greater part, or $54,244,072, was to provide for new rolling stock.

The financial position of their company had been greatly strengthened as a result of extensive reinvestment of earnings in the property. This had not been achieved without sacrifice on the part of shareholders, the preference stockholders having received only partial dividends for the years from 1932 to 1939 and the holders of ordinary stock none from 1932 to 1942, 2 per cent. in 1943, and only 5 per cent. per annum since then.

The recent inflationary increases in costs result in the usual depreciation accruals falling short of requirements. For replacement, at current prices it was calculated that the replacement of the company's rolling stock inventory would cost approximately $800,000,000. This was $413,000,000 more than the actual cost of the rolling stock now in service. Likewise, the replacement at current prices of the company's bridges, buildings, and other depreciable property now carried on the books at some $320,000,000 would require an outlay vastly in excess of that amount. Thus, even should existing prices decline somewhat in the future, the need for surplus earnings merely to meet renewals would remain substantial for some years.

Few enterprises had enjoyed as long and intimate a connection with the development of Canada as had the Canadian Pacific. Even though the days of extensive railway building were long past, there was still need for improvement and expansion. Density of traffic is on the increase, enlarged and modern terminal facilities, heavier track, new signal systems and more rolling stock would be required. All this pointed to the necessity for adequate railway earnings. If railways were impoverished as a result of an unremunerative rate level, they would neither have surplus funds of their own nor the ability to borrow the capital required for these purposes.

Probably no country in the world was more dependent on rail transport in the development of its economic life than Canada. The contribution of their company in that development has been noteworthy, and the tasks of the future would be undertaken with the same high regard for the best interests of Canada that had actuated their company from its beginning.

Vulcan Foundry Limited

The annual general meeting of the Vulcan Foundry Limited was held in London on May 7, Mr. F. S. Whalley, Chairman & Managing Director, presiding.

The Chairman, in moving the adoption of the report and accounts, said that net results for the year were not very dissimilar to those for 1946, but they would have noted the drop in manufacturing profit as shown in the profit and loss account.

At this time last year he had said: "It is almost inevitable that the cumulative effect of dislocation in industry will have its repercussions on the company's deliveries and output in the months ahead." So it had proved. The flow of materials into the works had been unbalanced, with the result that it had been impossible to keep the plant fully occupied, and these conditions in the works necessarily had resulted in a reduced number of locomotives being turned out, with a corresponding reduction in the value of output and the amount of profit. Furthermore, increased costs of production had resulted in a lower rate of profit on manufacture in 1947.

Their company had been able to make a valuable contribution to the country's export programme about which so much had been heard from Government spokesmen during the past year, but it could do much more if the necessary supplies of material were available. The seriousness of the situation was represented specially to Sir Stafford Cripps as President of the Board of Trade after he had announced his export drive; they pointed out that in spite of the evident importance of export orders on their books the steel suppliers

had been unable to meet their requirements, and, as a result, their production had been steadily dropping, and they were faced with short-time working and the consequent serious loss of skilled men at a time when he had called for, and they were anxious to make, all possible effort for the export drive. In spite of these representations this situation still obtained to date.

The vital necessity of reducing selling prices to a minimum was something that they well understood. A modest profit on a high rate of output was their aim, and it was only by such means that the cost of their products could be kept down.

At a time when so much was being said about the need for cutting profits as a means of reducing prices, it seemed desirable to draw some attention to the incidence of profits in the costs of production. On their company's figures for the year under review the expenditure of every £1 of sales is made up as follow: Wages and salaries, including National Insurance, take 8s. 0½d.; materials, including coal, gas, and miscellaneous expenses, 10s. 0¾d.; taxation takes 8¾d.; there is retained in the business 6½d.; and there is paid out in dividends 7d., and directors' fees ½d.

With regard to the future, they were now full up with work in hand for some considerable time to come. In fact, with the great need for locomotives in so many parts of the world, it was more than ever necessary for them to receive an adequate and even flow of materials into the works in order to keep up with the urgent requirements of some of their oldest and most valued customers.

During the current year they were expecting to make deliveries to Burma, Nigeria, Turkey, India, South America, Egypt, and the Gold Coast, which gave some indication of their trade in important overseas markets.

There had been changes in the directorate since his last address. Their colleague, Mr. D. R. Finnis, had retired after 25 years on the board, taking with him their best wishes. Mr. H. H. Saunders had quite recently been obliged to retire from the post of Joint Managing Director on medical advice. Mr. Saunders visited South Africa during the latter part of last year and, in addition, paid a special visit to Rhodesia in the company's interests. Unfortunately, this trip did not prove as beneficial to Mr. Saunders' health as had been hoped, and it was with regret that the board was losing his services at the present time.

Mr. G. Collingwood had been appointed Joint Managing Director in Mr. Saunders' place. Mr. Collingwood was trained at the Vulcan Foundry, and after service in the locomotive department of the South Indian Railway, joined the company's staff in 1935. On return from war service in 1945, he became Assistant General Manager and later General Manager. It was interesting to note that he had now acceded to the post of Managing Director formerly held by his father, Sir William Collingwood, to whom the firm owed so much in the past.

The report and accounts were adopted.

INSTITUTE OF TRANSPORT.—The President of the Institute of Transport, Mr. T. W. Royle, will be "At Home" at the new headquarters of the Institute, 80, Portland Place, London, W.1, on Thursday, June 10, and Monday, June 14, from 4.30 to 5.30 p.m. Cards of invitation will be necessary, and will be supplied on application by members to the Secretary of the Institute.

Parliamentary Notes

Inland Waterways

Mr. J. A. Sparks (Acton—Lab.) on the motion for the adjournment of the House of Commons on May 5 called attention to the position of our inland waterways, and made some suggestions for their more effective use in the transport organisation. He said that after the coming of railways the inland waterways had gradually become derelict. It was estimated that 75 per cent. of our canal mileage today suffered from serious lack of dredging. When the railway companies had superseded the canals, they not only bought a number of them, but pursued a deliberate policy of diverting traffic from canal to railway.

At present the railways owned about 760 miles of canals. A considerable mileage had already been abandoned and sold, he could not say exactly what amount; but since 1938 more than 200 miles had been abandoned by the railways. The remainder of the canals owned by the railways were in very bad condition.

Mr. Sparks was anxious to know the position of the railway-owned canals in relation to the new Docks & Inland Waterways Executive. For the time being the railway canals were being retained by the railway system, but he thought it important that the Docks & Inland Waterways Executive should have charge at an early date. Despite long neglect, the inland waterways system had an important part to play in the transport system. There were 2,400 miles of canals, which could be put in workable condition, having 40,000 persons living on them, and 7,237 craft of all types in use.

Mr. Sparks said the present structure of canal tolls and charges was out of date and unrealistic. It was not based on capacity to handle traffic. Some months ago the Minister of Transport had increased by 50 per cent. the tolls and charges on canal traffic, but he did not think it was going to have the result for which the Minister hoped. The Minister was anxious that the canals should pay their way, but he was afraid it would drive traffic off them.

It was important they should realise that the canals must be integrated with our road and rail systems. They had a large capacity for moving heavy loads where a steady flow was more important than speed. Coal, bricks, cement, grain, timber, and flour were a few of the many commodities which could be conveyed by water.

He agreed they must be made to pay, and the only way was by attracting more traffic, by opening up through routes, and by proper maintenance. Increased tolls and charges would not make them more financially sound, but would tend to make them less solvent.

MINISTER'S REPLY

Mr. Alfred Barnes (Minister of Transport), who had only two or three minutes in which to reply, said that if he was not able to deal fully with the points raised, the British Transport Commission would read what Mr. Spark had said with great interest and care. The steps taken in the Transport Bill indicated his own general interest in the problem. The establishment of a Docks & Inland Waterways Executive was, he felt, a development and encouragement which the canals had not hitherto had.

He could assure Mr. Sparks that the railway canals would eventually be transferred. They must remember that the railways were very large, extensive, and intricate organisations, and it would not be good business to split or break that organisation to pieces before new machinery had been created. The Docks & Inland Waterways Executive carried approximately ten million tons of canal traffic, whereas the railway-owned canals took less than half a million tons.

Mr. Barnes was still speaking when the debate was automatically adjourned under the standing order.

Questions in Parliament

Repair of Railway Wagons

Lt.-Colonel D. A. Price White (Carnarvon Boroughs—C.) on May 10 asked the Minister of Transport what amounts of iron and timber produced in North Wales during the past 12 months had been allocated to the repair of railway wagons in other parts of the country.

Mr. Alfred Barnes (Minister of Transport) stated in a written answer: I regret that this information is not available.

Carriers' Licences

Mr. Ernest Davies (Enfield—Lab.) on May 10 asked the Minister of Transport (1) if he would arange for table 130 of the *Monthly Digest of Statistics* to be expanded to show how many new registrations for goods vehicles issued each month were in respect of "A," "A" contract, "B," and "C" licences, respectively; and (2) if he would arrange to have expanded table 131 of the *Monthly Digest of Statistics* so that the division was shown of licences current for goods vehicles as between "A," "A" contract, "B" and "C" licences.

Mr. Alfred Barnes: No, sir. Monthly figures with respect to issues of carriers' licences under the Road & Rail Traffic Act, 1933, are not available and, in any case, it would not be practicable to relate them to the figures in the tables, which refer to excise licences.

British Railways Catering Establishments

Mr. F. J. Erroll (Altrincham & Sale—C.) on May 5 asked the Minister of Food if he would investigate the discrimination in favour of railway employees over a coloured passenger at the railbar at Euston Station, details of which had been sent to him, and if he would revoke the licence pending more satisfactory arrangements being instituted.

Dr. Edith Summerskill (Parliamentary Secretary, Ministry of Food): From inquiries I have made this was not a case of racial discrimination, but so far as my information goes it was a case of "queue-jumping." The second part of the question does not, therefore, arise. I have been assured by the Chief Hotels Superintendent at Euston that there is no question of racial discrimination in any of the catering services under the control of British Railways, and this has been confirmed by my inquiries.

Mr. Erroll: As I have received a letter from a railway employee at Euston saying exactly why they did discriminate against these coloured people, will the Parliamentary Secretary look into the matter again?

Dr. Summerskill: I am very surprised about this, because I sent an official down to this queue and it was found that there was no discrimination.

Mr. Erroll: Were some employees at the head of the queue?

Dr. Summerskill: No.

Notes and News

British Timken to Extend Duston Works.—It was announced recently by Mr. F. J. Pascoe, Managing Director of British Timken Limited, Northampton, that the Ministry of Supply had given its sanction for further extensions to the Duston factory, and that the Ministry of Works had granted the building licence.

Spring and Summer Posters.—The 1948 spring and summer display of posters at Southern Region stations has been completed by the issue of a further series of seven posters depicting various seaside resorts. The subject of the quad royal poster is Southsea, and six double royal posters show Bognor Regis, Eastbourne, Swanage, Sidmouth, Littlehampton, and Whitstable and Tankerton.

Canadian Locomotive Building Merger.—The Montreal Locomotive Works Limited and the Canadian General Electric Co. Ltd.—associates of the American Locomotive Company and General Electric Company—have announced that they have joined forces to manufacture diesel-electric locomotives in Canada. The first diesel-electric locomotive produced by the combined organisation will be a 1,000-h.p. unit to be delivered to the Canadian Pacific Railway after June 12.

S.M.E.E. Jubilee Exhibition. — The diverse aspects of model engineering are amply illustrated by the Jubilee exhibition of the Society of Model & Experimental Engineers, which was opened by Lord Forres, President of the Society, on May 13. The S.M.E.E. and affiliation comprises 40 clubs with over 3,000 members, and is holding its exhibition at the Imperial Institute, Kensington, until May 22. Railway exhibits include a considerable number of model locomotives and a ⅝-in.-gauge working layout by the North London Society of Model Engineers. An interesting feature is the locomotive test bench, designed and built by members of the S.M.E.E. affiliation, to measure the tractive force of a model locomotive under actual running conditions.

Russian Excavation Contract.—It is announced by Blaw Knox Limited, Clifton House, Euston Road, London, N.W.1, that a contract has been signed with the Russian Trade Delegation for the supply of 210 Insley ½-cu. yd. excavators with shovel attachment. This equipment is included in the list of plant to be supplied to Russia under the trade agreement between the British and Soviet Governments.

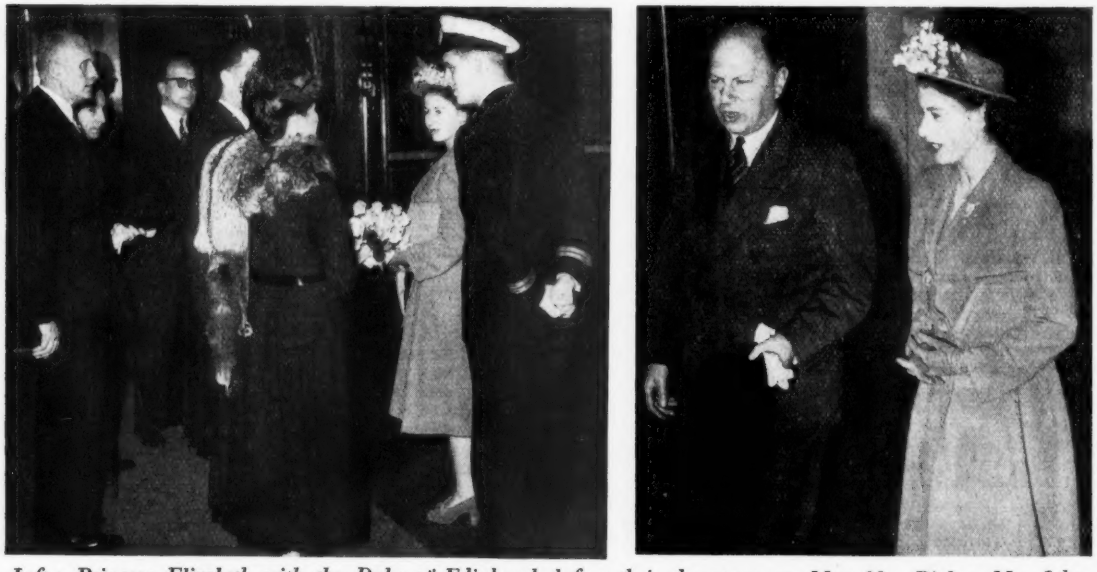
L.M.R. Developments at Northwich and Manchester.—The London Midland Region has placed contracts with A. Longworth & Sons Ltd., Manchester, for the renewal of gas mains and lighting equipment at the former Cheshire Lines Committee marshalling sidings at Northwich; and with Clegg Bros. (Burnley) Ltd. for the construction of foundations for a new 60-ft. turntable at Rose Grove (Manchester) motive power depot.

Midland Railway Co. of Western Australia Ltd.—Gross traffic receipts in Australian currency for the year ended June 30 last were £211,348, representing an increase of £5,180. Receipts from most classes of traffic showed an upward movement, except those from passengers, which were down by £1,227. Working expenses rose from £136,581 to £145,475, leaving net receipts of £65,873, comparing with £69,587 in the preceding year. The foregoing figures include receipts from the company's road services, which began operations on October 12, 1946. After charging renewals expenditure and making a provision of £6,121 (Australian currency) for deferred renewals, the revenue account showed a credit balance of £2,046. London administration expenses and directors' fees took £5,116, and the interest on the 4½ per cent. first mortgage debenture stock was £3,333, giving a total adverse balance for the year of £6,403. Bringing in the credit balance of £41,454 from the year ended June 30, 1946, there was £35,051 at credit of revenue account on June 30, 1947, to be carried forward to the next year. It is regretted that the results for the year do not permit of any interest being paid on the second mortgage cumulative income debenture stock. Total arrears for the 2½ years to June 30, 1947, amounted to £59,236 before deduction of income-tax, and are payable out of future profits in the terms of the Trust Deed.

L.M.R. Summer Service to Southend.—More trains are to be run on the London, Tilbury & Southend line to and from Fenchurch Street with the introduction by the London Midland Region of the summer service on May 31. In the weekday morning peak period an additional residential express will leave Southend East for Fenchurch Street at 6.28 a.m., while new semi-fast trains will leave Fenchurch Street at 8.24 a.m., 9.8 a.m., and 10.22 a.m. for Benfleet and all stations thence to Shoeburyness. During the evening "peak," two additional residential trains will run from Fenchurch Street. On Sundays, five additional fast trains will leave Fenchurch Street for Southend at 7 p.m., 8.10 p.m., 8.58 p.m., 10 p.m., and 10.55 p.m. Purfleet Rifle Range Halt, between Rainham and Purfleet on the Barking—Tilbury line, will be closed permanently on and from May 31.

Rail Facilities for Bath & West Show.—Arrangements made by the Western Region for the Bath & West Show at Cardiff on May 26 to 29 will include the issue of day excursion tickets from various stations in the South Wales, Midlands, West of England and Bristol areas at single fare for the return journey; and the provision of a British Railways inquiry office on the show ground to furnish visitors with information and literature. For handling of livestock and other exhibits the Western Region will provide a cattle dock at Canton siding, Cardiff, equipment at the show ground for dealing with farm implements and machinery, and

Princess Elizabeth leaving Victoria Station for France



Left: Princess Elizabeth with the Duke of Edinburgh before their departure on May 13. Right: Mr. John Elliot, Chief Regional Officer, Southern Region, with Princess Elizebeth at the station

OFFICIAL NOTICES

None of the vacancies on this page relates to a man between the ages of 18 and 50, inclusive, or a woman between the ages of 18 and 40, inclusive, unless he, or she, is excepted from the provisions of the Control of Engagement Order, 1947, or the vacancy is for employment excepted from the provisions of that Order.

BADLY wanted to complete files. *Railway Gazettes* dated 1940: September 27; 1941: March 19; 1946: February 1, February 15, February 22; 1947: March 14; Index to Vol. 74, 84 and 85. *Diesel Traction Supplement*: Nos. 99 to 103 inclusive, and Index for 1947. Offers, stating condition of copies and price, including postage, to THE DANISH STATE RAILWAYS, Baneafdelingens Bibliotek, Solvgade 40, Copenhagen, K., Denmark.

THE "PAGET" LOCOMOTIVE. Hitherto unpublished details of Sir Cecil Paget's heroic experiment. Eight single-acting cylinders with rotary valves. An application of the principles of the Willans central-valve engine to the steam locomotive. By James Clayton, M.B.E., M.I.Mech.E. Reprinted from *The Railway Gazette*, November 2, 1945. *Price* 2*s*. *Post free* 2*s*. 3*d*.

4-8-2 CLASS "15F" LOCOMOTIVES FOR THE SOUTH AFRICAN RAILWAYS. The latest examples of these main-line passenger and freight locomotives have been built by the North British Locomotive Co. Ltd. Reprinted from *The Railway Gazette* of September 20, 1946. *Price* 2*s*. *By post* 2*s*. 2*d*.

THE RAILWAY SYSTEM OF JAMAICA. A general description of the system and its traffics, with an account of economic problems; the motive power used; and some features of operation. By H. R. Fox, B.Sc., M.Inst.C.E., General Manager, Jamaica Government Railway. Reprinted from *The Railway Gazette*, January 5 and 12, 1945. *Price* 1*s*. *Post free* 1*s*. 2*d*.

TRANSPORT ADMINISTRATION IN TROPICAL DEPENDENCIES. By George V. O. Bulkeley, C.B.E., M.I.Mech.E. With chapters on Finance, Accounting and Statistical Method. In collaboration with Ernest J. Smith, F.C.I.S., formerly Chief Accountant, Nigerian Government Railway. 190 pages Medium 8vo. Full cloth. *Price* 20*s*. *By post* 20*s*. 6*d*.

additional road cartage to and from the station. Many of the cattle will be tuberculin-tested stock and arrangements will be made for cleansing and disinfecting the vehicles used to carry them. Specially trained railway staff will be transferred to Cardiff to deal with the traffic.

Liverpool Overhead Railway.—Receipts for the week ended May 2 were £2,777, a decrease of £40 compared with the preceding year. On the aggregate for seventeen weeks from January 1, an increase of £386 is shown, the total figure for this year being £48,598.

George Spencer, Moulton & Co. Ltd.—The board of the company intends recommending a dividend of 5 per cent., which does not exceed the rate paid in past years, to comply with the Chancellor of the Exchequer's appeal regarding limitation of dividends.

Railway & Canal Securities (Conversion Date) Order.—The Minister of Transport on April 8 made the Railway & Canal Securities (Conversion Date) (No. 3) Order, 1948 (Statutory Instrument 1948 No. 721). Copies are obtainable from H.M. Stationery Office or through any bookseller, price 1d. each.

International Welding Congress.—The inaugural meeting of a new international body, the International Institute of Welding, will be held in Brussels from June 8 to 11. Technical papers on welding subjects will be presented in the afternoon of June 8 and in the morning and afternoon of June 9. A programme of works visits has been arranged for June 10. The technical meetings will be open to all who are interested in welding. Those intending to take part in the conference should communicate with the Secretary of the provisional committee, Mr. G. Parsloe, the Institute of Welding, 2, Buckingham Palace Gardens, London, S.W.1.

Western Region Women's First Aid Competition.—The Western Region, British Railways, women's first aid competition, was held recently in the Porchester Hall, Paddington. The results were as follow:—

	Marks
Swindon "A" ... ... Florence M. Lean cup and prizes	227½
Swindon "B" ... ... Mabel A. Potter cup and prizes	215½
Plymouth ... ... Prizes	199
Gloucester	197
Newton Abbot	192½
Birkenhead Goods	169½

Colonel E. J. Selby was the adjudicator in both the team and individual tests. The presentation of trophies and prizes was carried out by Mr. H. H. Phillips, Assistant Chief Regional Officer, supported by Dr. H. H. Cavendish Fuller, Chief Medical Officer; Mr. A. S. Quartermaine, Chief Engineer; Mr. C. Furber, Commercial Superintendent; Mr. H. R. Webb, Stores Superintendent; Mr. S. G. Ward, Assistant Regional Staff Officer; Miss E. E. Brenan, Chief Welfare Supervisor for Women. Mr. K. C. Griffiths, Staff Assistant to Superintendent of the Line; Mr. C. W. Powell, Divisional Superintendent, London; Mr. H. G. Kerry, Divisional Locomotive Superintendent, London; Dr. C. T. Newnham, Assistant Medical Officer; Mr. P. Anstey, Ambulance Centre Secretary; and Mr. J. A. Martin, Assistant Centre Secretary.

Coaches for South Africa Carried by Special Train.—A special train was run by the Western and London Midland Regions from Handsworth to Birkenhead early on May 9 with the first two of 25 new railway coaches manufactured at Birmingham for the South African Railways. As the coaches are out-of-gauge for British railways, they were mounted on temporary bogies, and the door handles, side lamps, and stepboards were removed to avoid fouling certain tunnels and bridges where, as an additional precaution, a 5-m.p.h. speed limit was imposed. The train left Handsworth at 12.35 a.m. and was timed to arrive at Birkenhead at 10.25 a.m.

Annual Meeting of B.E.A.M.A. Resistance Welding Machine Section.—The annual general meeting of this section of B.E.A.M.A. was held at the Holborn Restaurant on April 22, when Mr. R. W. Ayers, Managing Director of Sciaky Electric Welding Machines Limited, was re-elected Chairman for 1948-49. In the course of his address Mr. Ayers said that practically all the manufacturers of resistance welding machines are now members of the section. Their export figure, which ten years ago was very small, had shown a progressive improvement since the end of the war, and had been more than doubled during the past twelve months. This was of particular significance when one realised that the Government recognised the importance of resistance welding machines in the drive for increased production and lower prices at home. The import figure was very low.

Passenger Traffic at Waterloo Station.—A census of traffic in March this year, issued from the Stationmaster's Office at Waterloo Station, Southern Region, shows that the number of passengers arriving at Waterloo in 24 hr. was 97,747; while departures totalled 94,428. Between 7 a.m. and 10 a.m., 57,096 passengers arrived, the heaviest hour being from 8-9 a.m., with 25,961 arrivals. Departures totalled 59,438 between 4 p.m. and 8 p.m., with 27,052 in the heaviest hour between 5 and 6 p.m. Train arrivals in 24 hr. numbered 514, with 132 between 7 and 10 a.m. In the 24 hr. there were 591 train departures, of which 168 took place between 4 and 8 p.m. On the Waterloo & City line, passenger departures to the Bank totalled 18,118 in 24 hr., with 9,104 between 9 and 10 a.m. Traffic from the Bank to Waterloo amounted to 15,167 passengers in 24 hr., with 8,228 between 5 and 6 p.m.

Northern Ireland Transport Bill.—Publication of the text of the Transport Bill for Northern Ireland on May 15 showed that it is proposed to establish a new Northern Ireland Transport Authority to integrate road and rail transport. The authority will consist of five to ten members, and will have power to issue stock up to a maximum of £10,000,000. It will be authorised to provide shipping services to and from Northern Ireland, although it has been stated in Belfast that such services are not contemplated at present.

Valuation of Railway Securities.—A sitting of the Transport Arbitration Tribunal was held on May 19 at 39, Belgrave Square, London, S.W.1, when application was made to the tribunal by the British Transport Commission, as required by Section 17 (3) of the Transport Act, 1947, for the value of the following securities to be determined:—

Shares of the Oldham, Ashton-under-Lyne & Guide Bridge Junction Railway Company.

Perpetual annuities of the Southern Railway Company.

Severn Commissioners: 4½ per cent. mortgages (1842 Act); 4½ per cent. mortgages (1844 Act); and 5 per cent. mortgages (1890 Act).

Grand Union Canal Company: 4 per cent. debenture stock (redeemable 1956 at 102 per cent.); 3½ per cent. perpetual debenture stock; and 6 per cent. non-cumulative preference stock.

Preparing for Electrification at Liverpool Street.—A major step in making ready for electric services on the Eastern Region line to Shenfield is the rearrangement of tracks and signalling at Liverpool Street. Three stages of the work have been completed already, and a fourth is being carried out over the period May 18 to 23. This involves permanent way work, to be completed by the morning of May 23, and resignalling, the whole of which will be in readiness by 5 a.m. on May 24. The new track is being laid by steam crane in prefabricated sections. The Signal Department is installing electric point machines, insulated joints, and bonding. For the time being the points will be operated from the existing mechanical frames. Various train alterations are necessitated by the occupation of platforms over the weekend.

Winsford Communication Cord Summons.—The soldier who stopped the 5.40 p.m. train from Glasgow to London on April 17 by pulling the communication cord near Winsford, Cheshire, will appear at Winsford Sessions on June 7 on a summons accusing him of pulling the cord without reasonable cause. While the train was stationary, it was run into in the rear

by a mail train from Aberdeen, as reported in our April 23 issue.

Railway Students' Association.—The annual general meeting of the Railway Students' Association will be held at the London School of Economics on Wednesday, May 26. An exhibition of Swedish railway films, which will commence at 6 p.m., will precede the meeting.

Derailment Near Mexborough, L.M.R.—The 11.45 a.m. express from St. Pancras to Bradford was derailed about 2½ miles from Mexborough on May 18. It was double-headed, and the two locomotives are said to have parted just before the accident. When the train engine left the rails, the first six coaches were derailed with it. Eight persons were killed and over 30 injured.

Mexican Railways Bonds.—Holders of obligatons of the National Railways of Mexico have been advised by the Council of Foreign Bondholders that neither of the plans recently proposed for repayment can be recommended. One of the plans would involve a reduction of capital by approximately 80 per cent., with a low rate of future interest; while the other makes no provision for future interest at all, and involves compulsory redemption of the bonds at a rising scale based on a price which reflects the long default. Being unable to see any reasonable prospect of better terms being obtained, however, the council does not feel justified in recommending bondholders to refuse these offers.

Modernisation of Toton Up Yard, L.M.R.—Work begun at Toton by the London Midland Region on the extension of the up sidings, as illustrated in our May 7 issue (see also our April 9 issue), will include the excavation and tipping of some 400,000 cu. yd. of earth, the area involved being about 1½ miles in length parallel with the L.M.R. Erewash Valley main line on its up side, and covering some 24 acres. A small hill some 50 ft. in height is being cut away by a team of mechanical excavators. Spoil will be dumped and levelled to form the site, on which additional arrival and sorting sidings, amounting to 27 miles of plain track and 5¼ miles of points and crossings, will be laid. Diversion of a tributary of the River Erewash is involved also. The work will be carried out in six progressive stages, the excavation being due for completion in March, 1949, and the entire scheme in April, 1950. It will then be possible for 500 to 600 additional wagons of coal daily to be shunted and marshalled, thus speeding movement of coal from the Midlands to the South. Contractors for the earthwork and drainage are the En-Tout-Cas Co. Ltd., Leicester, and for fencing J. B. Corrie & Co. Ltd., London.

Forthcoming Meetings

May 25 (*Tues.*).—The Institution of Civil Engineers, Great George Street, Westminster, S.W.1, at 5.30 p.m. Annual General Meeting.

May 26 (*Wed.*).—The Institution of Welding, at the Connaught Rooms, Great Queen Street, London, W.C.1, at 12.30 for 1 p.m. Luncheon to mark the foundation of the International Institute of Welding.

May 28-29.—The Permanent Way Institution, London Section. Visit to Dunkirk.

May 29-30.—British Railways (Southern Region) Lecture & Debating Society. Visit to Dunkirk.

Railway Stock Market

Although business in stock markets has been only on moderate lines, firmness prevailed in most sections, sentiment being helped by a fresh rally in British Funds, reflecting further re-investment of Argentine railway pay-out money. The gilt-edged market also continued to benefit from satisfaction with terms of the new Australian conversion loan, which, it is being assumed, may start at a small premium.

A short while ago it was being suggested that British Gas stock might be shorter-dated than 1960, but it is now generally believed that it probably will be longer-dated than 1965 and issued at par. This is assisting sentiment in regard to existing nationalisation stocks, the various Transport stocks all improving further on balance, although the 1978-88 stock after touching 97⅛ has eased slightly to 97 at the time of writing.

Outstanding feature among railway stocks has been a further jump in Canadian Pacifics to 25⅜ following latest news of oil in Alberta. Speculative activity in Canpacs has been in evidence, with somewhat sharp movements in price, ever since the company's oil-rights agreement with an American oil company. Canadian Pacific 4 per cent. debentures have further strengthened to 110, with the 4 per cent. non-cumulative preference at 80, at which there is a not unattractive yield, bearing in mind the cover for dividend requirements of this stock. In contrast there was a further reaction in Brazilian rails, reflecting earlier reports that the Brazilian Finance Minister had resigned and the further delay in signing the Anglo-Brazil agreement. Leopoldina were 13½, the preference stock 43⅜, and the debentures 78, but Leopoldina Terminal 5 per cent. debentures have been relatively firm at 74½. Great Western of Brazil shares were quoted at 71s. 3d.; San Paulo eased to 182, although, as the directors are visiting Brazil in accordance with the previous decision, there are renewed hopes that payment for the railway may not be much longer delayed.

Elsewhere, in most cases recent gains in Uruguayan railway stocks have been held, although vague talk of opposition to the plan on behalf of some holders of ordinary stocks, and also by some holders of Central Uruguay second debentures, affected sentiment moderately. Mexican railway stocks have been firm, with the 6 per cent. debentures at 87. In other directions Manila Railway 5 per cent. preference were 10s. 9d., and the "A" debentures 98. Egyptian Delta 5 per cent. debentures have marked 89. In other directions, Antofagasta ordinary was 13 and the 5 per cent. 67½. United of Havana 1906 debentures have been steady at 18. There were again numerous dealings in Beira Railway bearer shares around the slightly higher level of 56s. 9d. Nitrate Rails were 75s.

There was again a firm undertone in shares of bus and road transport companies, particularly those of the operating concerns. British Electric Traction deferred ordinary stock was around £1.810, awaiting the Chairman's annual statement, and Thomas Tilling at 98s. 6d. moved higher on balance, although not holding best levels.

Iron and steel shares remained firm and unaffected by the remarks on nationalisation made at the Labour Party conference. Vickers eased slightly to 30s. 3d. following the meeting. Dorman Long have been at 32s., yielding over 4⅞ per cent.; United Steel at 30s. return over 5¼ per cent.; Colvilles, helped by the full report, were 32s. and Babcock & Wilcox rose further to 74s. 4½d. Among shares of locomotive builders and engineers, Beyer Peacock, at 25s. 6d., strengthened on the higher profits and increased total payment of 6 per cent. (against 5 per cent.) including 1 per cent. bonus. North British Locomotive have also changed hands around 25s. 6d., and Vulcan Foundry were 27s. 6d.

Traffic Table of Overseas and Foreign Railways

	Railways	Miles open	Week ended	Traffics for week: Total this year	Traffics for week: Inc. or dec. compared with 1945/46	No. of Week	Aggregate traffics to date: Total 1947/8	Aggregate traffics to date: Increase or decrease
				£	£		£	£
South & Central America	Antofagasta	834	9.5.48	43,580	+ 1,820	19	977,470	+ 249,060
	Bolivar	174	Apr., 1948	$80,579	— $28,757	17	$374,821	— $74,827
	Brazil	—	—	—	—	—	—	—
	Cent. Uruguay	970	10.5.48	44,408	+ 834	45	1,618,857	— 82,272
	Costa Rica	262	Mar., 1948	25,390	— 7,138	39	292,351	+ 39,451
	Dorada	70	Feb., 1948	16,700	— 12,900	9	39,800	— 20,500
	G.W. of Brazil	1,030	8.5.48	28,300	+ 1,000	19	693,700	+ 15,000
	Inter. Ctl. Amer.	794	Feb., 1948	$1,144,611	— $ 1,242	9	$2,402,164	+ $74,903
	La Guaira	22¾	Apr., 1948	$115,893	+ $13,925	18	$407,532	— $49,511
	Leopoldina	1,918	8.5.48	44,971	— 16,006	19	1,005,427	— 190,564
	Midland Uruguay	319	Mar., 1948	16,928	— 149	39	162,099	+ 11,210
	Nitrate	382	15.5.48	11,779	+ 2,023	20	111,140	+ 30,955
	N.W. of Uruguay	113	Mar., 1948	6,536	— 35	39	48,421	— 1,912
	Paraguay Cent.	274	7.5.48	₲ 61,863	— ₲ 4,188	45	₲ 2,952,013	+ ₲ 123,153
	Peru Corp.	1,059	Apr., 1948	199,283	+ 37,682	39	1,726,563	+ 208,348
	Salvador	100	Feb., 1948	c309,000	+ c65,000	35	c1,381,600	+ c252,600
	San Paulo	153½	—	—	—	—	—	—
	Taltal	156	Apr., 1948	9,670	+ 6,285	44	80,080	+ 39,065
	United of Havana	1,301	8.5.48	95,223	— 14,744	45	3,405,478	+ 383,497
	Uruguay Northern	73	Mar., 1948	1,464	+ 159	39	10,584	— 743
Canada	Canadian National	23,535	Mar., 1948	9,662,750	+ 575,250	14	26,667,500	+ 1,598,500
	Canadian Pacific	17,037	Mar., 1948	7,086,500	+ 348,000	14	19,889,500	+ 1,552,500
Various	Barsi Light†	202	Apr., 1948	30,727	+ 1,432	4	30,727	+ 1,432
	Beira	204	Feb., 1948	111,097	+ 20,529	22	580,320	+ 134,080
	Egyptian Delta	607	31.3.48	20,147	+ 1,782	52	628,438	— 44,064
	Gold Coast	536	Feb., 1948	199,078	+ 9,588	48	1,805,460	— 209,132
	Manila	—	—	—	—	—	—	—
	Mid. of W. Australia	277	Mar., 1948	25,090	+ 5,591	39	209,473	+ 54,153
	Nigeria	1,900	Feb., 1948	396,597	+ 49,240	48	4,215,199	+ 21,726
	Rhodesia	2,445	Sept., 1947	643,980	+ 102,833	52	6,787,603	+ 612,938
	South African	13,323	17.4.48	1,303,453	+ 15,657	3	3,240,018	+ 304,165
	Victoria	4,774	Jan., 1948	1,480,357	+ 164,562	31	—	—

† Receipts are calculated @ 1s. 6d. to the rupee